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U. S. DEPARTMENT OF AGRICULTURE  
OFFICE OF EXPERIMENT STATIONS

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BULLETIN No. 19

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ORGANIZATION LISTS  
OF THE  
AGRICULTURAL EXPERIMENT STATIONS  
AND  
AGRICULTURAL SCHOOLS AND COLLEGES  
IN THE  
UNITED STATES

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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JANUARY, 1894.

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WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1894



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## TABLE OF CONTENTS.

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	Page.
Letter of transmittal .....	7
List of abbreviations .....	8
List of experiment stations in the United States, with governing boards and station staffs.....	9
List of agricultural schools and colleges in the United States, with courses of study and boards of instruction .....	29
Officers of the Association of American Agricultural Colleges and Experiment Stations .....	59
Officers and reporters of the Association of Official Agricultural Chemists of the United States.....	60
List of station publications received during 1892 and 1893 .....	61
Federal legislation affecting agricultural colleges and experiment stations.....	74
Regulations of the Post-Office Department regarding experiment station publications .....	80
Rulings of the Treasury Department as to the construction of the act of Congress of March 2, 1887, establishing agricultural experiment stations .....	81
Index of names .....	85



LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS,  
*Washington, D. C., January 12, 1894.*

SIR: I have the honor to transmit herewith, for publication, Bulletin No. 19 of this Office.

Respectfully,

A. C. TRUE,  
*Director.*

Hon. J. STERLING MORTON,  
*Secretary of Agriculture.*

## LIST OF ABBREVIATIONS.

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<i>Agr.</i> , Agriculture, Agriculturist, Agricultural.	<i>Lab.</i> , Laboratory.
<i>Anal.</i> , Analytical.	<i>Lib.</i> , Librarian.
<i>Arbor.</i> , Arboriculture, Arboriculturist.	<i>Math.</i> , Mathematics.
<i>Assoc.</i> , Associate.	<i>Mech.</i> , Mechanics, Mechanical.
<i>Asst.</i> , Assistant.	<i>Met.</i> , Meteorology, Meteorologist.
<i>Bact.</i> , Bacteriology, Bacteriologist.	<i>Min.</i> , Mineralogy, Mineralogist.
<i>Biol.</i> , Biology, Biologist, Biological.	<i>Myc.</i> , Mycologist.
<i>Bot.</i> , Botany, Botanist, Botanical.	<i>Physiol.</i> , Physiology, Physiological, Physiologist.
<i>Chem.</i> , Chemist, Chemistry, Chemical.	<i>Polit.</i> , Political.
<i>Chair.</i> , Chairman.	<i>Pres.</i> , President.
<i>Dept.</i> , Department.	<i>Prin.</i> , Principal.
<i>Dir.</i> , Director.	<i>Sec.</i> , Secretary.
<i>Elect.</i> , Electrical, Electricity.	<i>Sta.</i> , Station.
<i>Engin.</i> , Engineer, Engineering.	<i>Sten.</i> , Stenographer, Stenography.
<i>Ent.</i> , Entomology, Entomologist.	<i>Supt.</i> , Superintendent.
<i>Expt.</i> , Experiment.	<i>Treas.</i> , Treasurer.
<i>Geol.</i> , Geology, Geologist, Geological.	<i>Univ.</i> , University.
<i>Gov.</i> , Governor.	<i>V. Dir.</i> , Vice Director.
<i>Hort.</i> , Horticulture, Horticulturist.	<i>Vet.</i> , Veterinary, Veterinarian.
<i>Instr.</i> , Instructor.	<i>Vit.</i> , Viticulture, Viticulturist.
<i>Irrig.</i> , Irrigation.	<i>Zoöl.</i> , Zoölogy, Zoölogist.

LIST OF EXPERIMENT STATIONS IN THE UNITED STATES, WITH GOV-  
ERNING BOARDS AND STATION STAFFS.

ALABAMA.

**Agricultural Experiment Station of the Agricultural and Mechanical College  
of Alabama, Auburn.**

Department of the Agricultural and Mechanical College of Alabama.

GOVERNING BOARD.

J. G. Gilchrist (*Pres.*), *Hope Hull*; R. F. Ligon, *Tuskegee*; H. C. Armstrong, *Auburn*.

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P. H. Mell, M. E., Ph. D., <i>Bot. and Met.</i>	R. E. Noble, M. S., <i>2d Asst. Chem.</i>
A. J. Bondurant, <i>Agrv. and Biol.</i>	C. L. Hare, M. S., <i>3d Asst. Chem.</i>
C. A. Cary, D. V. M., <i>Vet.</i>	R. L. Bivins, B. Sc., <i>Clerk and Asst. Bot.</i>

**Canebrake Agricultural Experiment Station, Uniontown.**

GOVERNING BOARD.

H. D. Lane (*Pres.*), *Montgomery*; H. Benton (*Sec.*), *Uniontown*; M. Walker, (*Treas.*) *Fannsdale*; W. L. Broun, *Auburn*; W. M. Booker, *Uniontown*; J. Huggins, *Newbern*; A. Sledge, *Whitsett*; G. D. Stollenwerck, *Tombigbee*.

STATION STAFF.

W. L. Broun, M. A., LL. D., <i>Dir.</i>	J. A. Stuart, V. M. D., <i>Vet.</i>
H. Benton, M. S., <i>Asst. Dir. in Charge.</i>	M. Walker, <i>Treas.</i>

ARIZONA.

**Agricultural Experiment Station of the University of Arizona, Tucson.**

Department of the University of Arizona.

GOVERNING BOARD.

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STATION STAFF.

T. B. Comstock, D. Sc., <i>President of the University.</i>	
Frank A. Gulley, M. S., <i>Dir.</i>	James W. Toumey, B. S., <i>Bot. and Ent.</i>
Chas. B. Collingwood, M. S., <i>Chem. and Met.</i>	Mark Walker, <i>Asst. Hort.</i>
Edward M. Boggs, C. E., <i>Irving. Engin.</i>	Joseph A. Heberly, <i>Asst. Chem.</i>
M. Moss, <i>Foreman Substa., Phoenix.</i>	R. J. Ferguson, <i>Engin.</i>

## ARKANSAS.

**Arkansas Agricultural Experiment Station, Fayetteville.**

Department of Arkansas Industrial University.

## GOVERNING BOARD.

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Geo. L. Teller, M. S., <i>Chem.</i>	C. L. Newman, B. S., <i>Asst. Agr. Substa.</i> , <i>Camden</i> .
R. R. Dinwiddie, V. S., <i>Vet.</i>	
J. T. Stinson, B. S., <i>Hort.</i>	
J. F. Moore, <i>Asst. Chem. and Lib.</i>	

## CALIFORNIA.

**Agricultural Experiment Station of the University of California, Berkeley.**

Department of the University of California.

## GOVERNING BOARD.

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R. H. Loughridge, Ph. D., <i>Agr. Geol. and Agr. Chem.</i>	C. H. Shinn, B. A., <i>Inspector Stations</i> .
C. W. Woodworth, M. S., <i>Ent.</i>	Emil Kellner, <i>Foreman Grounds</i> .
M. E. Jastia, Ph. B., <i>Asst. in Agr. Lab.</i>	F. T. Bioletti, <i>Foreman Cellar</i> .
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San Joaquin Valley Station, A. J. Pillsbury, *Patron*, *Tulare*; Julins Forrer, *Fore-  
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East Side Santa Clara Valley Viticultural Station, John Gallegos, *Patron, Mission San Jose*.

Chico Forestry Station, C. C. Royce, *Patron, Chico*.

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### **Agricultural Experiment Station, Fort Collins.**

Department of the State Agricultural College of Colorado.

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J. T. Stubbs, *Foreman Substa.*, *De Funiak Springs*.

\*Telegraph address, *Storrs via Willimantic*; railroad station, express and freight address *Eagleville*.

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Department of Georgia State College of Agriculture and Mechanic Arts.

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John Norwood, <i>Asst. Dir. Substa.</i> , <i>Grangeville</i> .	
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T. T. Rutledge, <i>Asst. Dir. Substa.</i> , <i>Nampa</i> .	

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Agricultural Experiment Station of the University of Illinois, *Champaign.*†

Department of the University of Illinois.

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\* Telegraph, express, and freight address, *Griffin*.

† Mail should be addressed to *Agricultural Experiment Station*.

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Edward H. Farrington, M. S., <i>Chem.</i>	W. A. Powers, B. S., <i>Asst. Chem.</i>
	Frank D. Gardner, B. S., <i>Asst. Agr.</i>

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Agricultural Experiment Station of Indiana, *La Fayette.*

Department of Purdue University.

## GOVERNING BOARD.

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William C. Latta, M. S., <i>Agr.</i>	A. W. Bitting, V. S., <i>Vet.</i>
James Troop, M. S., <i>Hort.</i>	S. G. Wright, M. S., <i>Asst. Bot.</i>
Henry A. Huston, M. A., A. C., <i>Chem.</i>	Wm. Brady, M. S., A. C., <i>Asst. Chem.</i>
	Geo. R. Ives, B. S., <i>Asst. Agr.</i>

## IOWA.

Iowa Agricultural Experiment Station, *Ames.*

Department of Iowa State College of Agriculture and Mechanic Arts.

## GOVERNING BOARD.

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## STATION STAFF.

W. M. Beardshear, M. A., <i>President of the College.</i>	
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## LIST OF AGRICULTURAL SCHOOLS AND COLLEGES IN THE UNITED STATES, WITH COURSES OF STUDY AND BOARDS OF INSTRUCTION.

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*Agricultural and Mechanical College of Alabama, Auburn.*

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The courses of study are five. Three of these require four years each for completion, and lead to the degree of B. S.: Course in chemistry and agriculture, course in mechanics and engineering, and general course. The two remaining courses require two years each, and lead to a certificate: Two years' course in agriculture and two years' course in mechanic arts.

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E. J. Wickson, M. A., ( <i>Assoc.</i> ) <i>Agr., Hort., and Ent.</i>	M. A. Howe, PH. B., <i>Instr. Cryptogamic Bot.</i>
R. H. Loughridge, PH. D., ( <i>Asst.</i> ) <i>Agr. Geol. and Agr. Chem.</i>	A. B. Pierce, M. A., <i>Instr. Math.</i>
E. L. Greene, PH. B., <i>Bot.</i>	F. G. Burgess, B. S., <i>Instr. Topographical and Free-hand Drawing.</i>
Wm. B. Rising, M. A., M. E., PH. D., <i>Chem.</i>	W. D. Armes, PH. B., <i>Instr. English.</i>
E. O'Neill, PH. B., ( <i>Asst.</i> ) <i>Chem.</i>	T. F. Sanford, B. A., <i>Instr. English.</i>
J. Le Conte, M. A., M. D., LL. D., <i>Geol. and Natural History.</i>	S. D. Huntington, B. A., <i>Instr. French.</i>
A. C. Lawson, M. A. PH. D., ( <i>Assoc.</i> ) <i>Min. and Geol.</i>	H. I. Randall, B. S., <i>Instr. Civil Engin.</i>
C. W. Woodworth, M. S., <i>Ent.</i>	J. Sutton, PH. B., <i>Recorder.</i>
G. C. Edwards, PH. B., ( <i>Assoc.</i> ) <i>Math.</i>	M. E. Jaffa, PH. B., <i>Instr. Agr.</i>
M. W. Haskell, PH. D., ( <i>Asst.</i> ) <i>Math.</i>	G. E. Colby, PH. B., <i>Instr. Vit.</i>
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F. Slate, B. S., <i>Physics.</i>	E. R. Drew, B. S., <i>Instr. Physics.</i>
N. Whiting, PH. D., ( <i>Assoc.</i> ) <i>Physics.</i>	A. P. Hayne, PH. B., <i>Instr. Vit.</i>
W. E. Ritter, M. A., ( <i>Asst.</i> ) <i>Biol.</i>	C. L. Gilman, <i>Asst. in Chem.</i>
H. Kower, C. E., <i>Asst. Instr. Drawing.</i>	R. S. Norris, B. S., <i>Asst. in Chem.</i>
F. Soulè, <i>Civil Engin. and Astronomy.</i>	V. Lenher, <i>Asst. in Chem.</i>
B. Moses, PH. D., <i>History and Polit. Economy.</i>	W. C. Blasdale, B. S., <i>Asst. in Chem.</i>
C. M. Gayley, B. A., <i>English Language and Literature.</i>	S. J. Holmes, B. S., <i>Asst. in Biol.</i>
C. B. Bradley, M. A., ( <i>Assoc.</i> ) <i>English Language and Literature.</i>	A. G. Van Gorder, <i>Asst. in Physics.</i>
A. F. Lange, PH. D., ( <i>Asst.</i> ) <i>English Language and Literature.</i>	W. L. Jepson, PH. B., <i>Asst. in Bot.</i>
A. Putzker, M. A., <i>German.</i>	F. H. Payne, M. D., <i>Dir. Physical Culture.</i>
J. H. Senger, PH. D., ( <i>Asst.</i> ) <i>German.</i>	Mary B. Ritter, M. D., <i>Woman Physician in Dept. Physical Culture.</i>

## COLORADO.

The State Agricultural College of Colorado, Fort Collins.

## COURSES OF STUDY.

The courses of study are five, each requiring four years in addition to one year of preparatory work, and each leading to the degree of B. S.: The agricultural course, the mechanical course, the irrigation engineering course, the chemical course, and the ladies' course. Provision is made for post-graduate work, but no additional degree is granted.

## BOARD OF INSTRUCTION.

Alston Ellis, M. A., Ph. D., LL. D., *Pres.*; *Polit. Economy and Logic.*  
 J. W. Lawrence, B. S., *Mech. and Drawing.*  
 Maud Bell, *History, Languages, and Literature.*  
 Wm. P. Headden, M. A., Ph. D., *Chem. and Geol.*  
 L. G. Carpenter, M. S., *Physics and Irrig. Engin.*  
 C. S. Crandall, M. S., *Bot. and Hort.*  
 C. P. Gillette, M. S., *Zoöl. and Ent.*  
 W. W. Cooke, B. S., M. A., *Agr.*  
 Grace Espey Patton, B. S., *English and Sten.*  
 W. J. Meyers, B. S., *Math.*  
 D. W. Working, B. S., *Sec. Faculty.*      H. D. Humphrey, 2d Lieut. 20th Infantry, U. S. A., *Military Science and Tactics.*  
 Celia M. Southworth, B. S., *Lib.*  
 L. D. Crain, B. M. E., *Asst. in Mech. and Drawing.*  
 J. D. Stannard, B. S., *Asst. in Physics and Engin.*  
 Chas. F. Baker, B. S., *Asst. in Zoöl. and Ent.*  
 W. H. Goodall, B. L., *Elocution and Calisthenics.*  
 Chas. J. Ryan, *Asst. in Chem.*  
 R. E. Trimble, B. S., *Asst. in Met.*  
 M. J. Huffington, *Asst. in Hort.*  
 L. M. Taylor, B. S., *Sten.*

## CONNECTICUT.

## Sheffield Scientific School of Yale University, New Haven.

## COURSES OF STUDY.

Courses of instruction occupying three years and leading to the degree of Ph. B. are arranged to suit the requirements of students. The first year's work is the same for all; for the last two years the instruction is chiefly arranged in special courses. Those most distinctly marked out are the following: In chemistry, in civil engineering, in mechanical engineering, in agriculture, in natural history, in biology preparatory to medical studies, in studies preparatory to mining and metallurgy, and in select studies preparatory to other higher studies. Under certain conditions the degrees of civil engineer and mechanical (or dynamical) engineer are conferred on bachelors of philosophy who have taken the first degree in engineering and who pursue a higher course under the direction of the governing board of the school for at least two years.

## BOARD OF INSTRUCTION.

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 S. W. Johnson, M. A., *Theoretical and Agr. Chem.*  
 W. H. Brewer, Ph. D., *Agr.*  
 John E. Clark, M. A., *Math.*  
 D. C. Eaton, M. A., *Bot.*  
 C. B. Richards, M. A., *Mech. Engin.*  
 T. R. Lounsbury, LL. D., *English.*  
 A. E. Verrill, M. A., *Zoöl.*  
 S. I. Smith, M. A., *Comparative Anatomy.*  
 W. G. Mixter, M. A., *Chem.*  
 A. Jay DuBois, C. E., Ph. D., *Civil Engin.*  
 C. S. Hastings, Ph. D., *Physics.*  
 H. W. Farnam, M. A., R. P. D., *Polit. Economy.*  
 R. H. Chittenden, Ph. D., *Physiol. Chem.*      A. Guyot Cameron, Ph. D., (*Asst.*) *French.*  
 A. J. Wakeman, Ph. B., *Instr. Anal. Chem.*  
 W. A. Setchell, Ph. D., *Instr. Biol.*  
 R. N. Corwin, B. A., *Instr. German.*  
 P. F. Smith, Ph. D., *Instr. Math.*  
 E. H. Lockwood, M. E., *Instr. Drawing and Mechanism.*  
 Langdon Frothingham, M. D. V., *Asst. in Vet. Science and Bacteriology.*  
 H. A. Smith., B. A., *Instr. English.*  
 W. I. Lowe, B. A., *Instr. History.*  
 F. R. Rich, Ph. B., *Asst. in German.*  
 J. C. Tracey, C. E., *Asst. in Civil Engin.*  
 C. M. Williams, B. A., Ph. B., *Asst. in Physiol. Chem.*  
 G. P. Starkweather, Ph. B., *Asst. in Drawing.*  
 L. B. Mendel, Ph. D., *Asst. in Physiol. Chem.*

S. L. Penfield, Ph. B., *Min.*  
 H. L. Wells, Ph. B., *Anal. Chem. and Metallurgy.*  
 A. S. Wheeler, M. A., *Instv. German.*  
 Mark Bailey, M. A., *Instr. Elocution.*  
 John H. Niemeyer, M. A., *Drawing.*  
 W. H. Bishop, B. A., *Instr. French and Spanish.*  
 T. W. Mather, M. E., *Instr. Mech. Engin.*  
 J. S. Pettit, Capt., U. S. A., *Military Science.*  
 S. E. Barney, C. E., *Instr. Math. and Civil Engin.*  
 L. V. Pirsson, Ph. B., *Instr. Geol. and Lithology.*  
 F. E. Beach, Ph. D., *Asst. in Physics.*  
 H. A. Bunnstead, B. A., *Instr. Physics.*  
 G. F. Campbell, Ph. B., *Instr. Chem.*  
 W. R. Coe, Ph. B., *Asst. in Biol.*  
 P. T. Walden, Ph. B., *Asst. in Anal. Chem.*  
 M. A. Pond, Ph. B., *Asst. in Drawing.*  
 F. M. Adams, Ph. B., *Asst. in Physics.*  
 C. C. Wilson, B. A., *Asst. in Mechanism.*  
 J. W. Coe, Ph. B., *Asst. in Chem.*  
 W. A. Granville, Ph. B., *Asst. in Math.*  
 W. T. H. Howe, Ph. B., *Asst. in Chem.*  
 C. A. Ingersoll, Ph. B., *Asst. in Descriptive Geometry.*  
 Paul Klimpe, B. A., *Instr. German.*  
 J. H. Pratt, Ph. B., *Asst. in Chem.*  
 A. H. Stevens, Ph. B., *Asst. in Machine Designing.*

### Storrs Agricultural College, Mansfield.

#### COURSE OF STUDY.

The course of study requires two or four years for completion and in the latter case leads to a degree.

#### BOARD OF INSTRUCTION.

B. F. Koons, Ph. D., *Pres.*  
 A. B. Peebles, B. S., *Chem. and Math.*  
 C. S. Phelps, B. S., *Agr.*  
 Geo. A. Waterman, D. V. M., *Vet. Science.*  
 Lottie J. Short, *Domestic Science.*  
 H. E. Woodbury, B. S., *Hort.*  
 C. A. Davis, *Instr. Wood and Iron Work.*  
 L. J. Barber, *Instr. Mech. and Engin.*  
 Mary E. Wilson, *Housekeeper.*

### DELAWARE.

#### Delaware College, Newark.

#### COURSES OF STUDY.

The courses of study are seven, and require four years each for completion: The classical and the Latin scientific courses, each leading to the degree of B. A.; the course in modern languages and science, leading to the degree of B. S.; the courses in engineering, leading to the degrees of C. E., M. E., and E. E.; and the agricultural course, leading to the degree of B. Agr. There are also a two years' course and a short winter course of thirteen weeks in agriculture.

#### BOARD OF INSTRUCTION.

A. N. Raub, Ph. D., *Pres.; English, Mental, Moral and Polit. Science.*  
 T. R. Wolf, Ph. D., *Chem., Min. and Sanitary Science.*  
 F. D. Chester, M. S., *Bot. and Geol.*  
 G. A. Harter, Ph. D., *Math. and Physics.*  
 C. S. Conwell, M. A., *Ancient and Modern Languages.*  
 M. H. Beckwith, *Hort. and Ent.*  
 C. L. Penny, M. A., *German.*  
 F. A. Weihe, M. E., *Mech. and Elect. Engin.*  
 F. H. Robinson, C. E., *Civil Engin.*  
 W. H. Bishop, B. S., *Agr.*  
 H. P. Eves, D. V. S., *Vet. Science.*  
 Lieut. J. H. Frier, *Military Science and Tactics.*

### State College for Colored Students, Dover.

#### COURSES OF STUDY.

There are five courses of study: Classics, science, agriculture, engineering, and chemistry.

## BOARD OF INSTRUCTION.

Wesley Webb, M. S., *Pres.*S. L. Conwell, B. A., *Asst.*L. D. Hileland, *Instr.*

## FLORIDA.

Florida State Agricultural and Mechanical College, *Lake City.*

## COURSES OF STUDY.

Besides a preparatory department, there are three collegiate courses of study, each requiring four years for completion: The classical course, leading to the degree of B. A.; the agricultural course, leading to the degree of B. S.; and the mechanical course, leading to the degree of M. E.

## BOARD OF INSTRUCTION.

O. Clute, M. S., LL. D., *Pres.; Agr.*W. F. Yocom, M. A.; *Mental and Moral Philosophy.*J. J. Earle, B. A., *Physics and Chem.*H. P. Baya, *Math. and Military Science and Tactics.*J. M. Stuart, B. A., *English and Literature.*C. V. Waugh, *Latin and History.*J. N. Whitner, M. A., *Pomology and Hort.*P. H. Rolfs, M. S., *Natural Science, Ent. and Bot.*A. A. Persons, B. S., *Agr. Chem.*H. C. Powers, *Manual Training and Drawing.*Jno. B. Parkinson, *Penmanship and Book-keeping.*Bettie C. DeSha, *Sten., Typewriting and Telegraphy.*E. J. Bending, *Asst. in Wood Shops.*J. C. Martin, jr., M. A., *In Charge Preparatory Dept.*J. F. Appell, M. D., *Physician.*Florida State Normal School, *Tallahassee.*

## COURSES OF STUDY.

The courses of study are four: Preparatory, normal, manual training, and agricultural.

## BOARD OF INSTRUCTION.

T. DeS. Tucker, M. A., *Pres.*T. V. Gibbs, *Math.*D. W. Onley, *Manual Training and Chem.*P. Van Weller, *English.*C. B. Tucker, *Dairying.*Alexander Cuppage, *Agr.*T. W. Talley, M. A., *Natural Science.*M. L. Anderson, *Domestic Economy.*Frederica F. Jones, M. A., *Prin. Preparatory Dept.*

## GEORGIA.

Georgia State College of Agriculture and Mechanic Arts, *Athens.*

## COURSES OF STUDY.

There are two courses of study, requiring four years each for completion and leading to the degrees of B. S. and B. E.; one three years' course, leading to the degree of B. Agr.; post-graduate courses of one year each, leading to degrees of M. S., C. E., and M. Agr.; special courses in chemistry, mining and metallurgy, in agriculture, in electrical engineering, and in building and architecture, in which certificates of attainment are given. There is also a short winter course in agriculture, comprising instruction in the English branches, agriculture and dairying.

## BOARD OF INSTRUCTION.

H. C. White, Ph. D., <i>Pres.</i> : <i>Chem.</i>	J. H. T. McPherson, Ph. D., <i>History</i> .
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C. P. Wilcox, M. A., LL. D., <i>Modern Languages</i> .	C. M. Snelling, B. S., <i>Instr. Math.</i> ; <i>Commandant</i> .
B. F. Riley, M. A., <i>English</i> .	C. H. Herty, Ph. D., <i>Instr. Anal. Chem.</i>
D. C. Barrow, Jr., C. M. E., <i>Math.</i>	Jesse Coates, B. E., <i>Instr. Physics</i> .
C. M. Strahan, C. M. E., <i>Engin.</i>	O. E. Sheffield, B. E., <i>Instr. Drawing</i> .
John P. Campbell, B. A., Ph. D., <i>Biol.</i>	Jno. Morris, M. A., <i>Instr. English</i> .
	H. J. Wing, <i>Instr. Dairying</i> .

## IDAHO.

## College of Agriculture of the University of Idaho, Moscow.

## COURSE OF STUDY.

The course of study in agriculture requires four years for completion.

## BOARD OF INSTRUCTION.

F. B. Gault, M. S., <i>Pres.</i>	Chas. W. McCurdy, D.Sc., <i>Chem. and Hort.</i>
John E. Ostrander, C. E., M. A., <i>Civil Engin. and Mech. Arts</i> .	Annette Bowman, <i>Instr. Industrial Drawing and History</i> .
Robert Milliken, <i>Agr. and Hort.</i>	N. G. Brown, <i>Instr. English Branches</i> .

## ILLINOIS.

## College of Agriculture of the University of Illinois, Champaign.

## COURSES OF STUDY.

The courses of study are three: The agricultural course, requiring four years for completion and leading to the degree of B.S.: the junior course in agriculture, requiring two years for completion, and leading to no degree; and a special course for farmers beginning in January and continuing eleven weeks.

## BOARD OF INSTRUCTION.

T. J. Burrill, M. A., Ph. D., <i>Acting Regent; Bot. and Hort.</i>	G. W. Myers, M. L., <i>(Asst.) Math.</i>
J. M. Gregory, LL. D., <i>(Emeritus) Polit. Economy.</i>	Katharine Merrill, <i>(Asst.) English Language and Literature</i> .
G. E. Morrow, M. A., <i>Dean; Agr.</i>	David Kinley, Ph. D., <i>(Asst.) Polit. Economy.</i>
S. W. Shattuck, M. A., C. E.: <i>Math.</i>	E. J. Townsend, Ph. M., <i>(Asst.) Math.</i>
J. D. Crawford, M. A., <i>History</i> .	G. P. Clinton, B. S., <i>Asst. in Bot.</i>
S. A. Forbes, Ph. D., <i>Zoöl. and Ent.</i>	T. A. Clark, B. L., <i>Instr. English</i> .
C. W. Rolfe, M. S., <i>Geol.</i>	F. D. Gardner, B. S., <i>Instr. Agr.</i>
D. McIntosh, V. S., <i>Vet. Science</i> .	A. M. Barber, M. S., <i>Asst. in Bot.</i>
A. W. Palmer, D. Sc., <i>Chem.</i>	A. H. White, B. A., <i>Asst. in Chem.</i>
E. R. Hills, Capt. 5th Artillery, U. S. A., <i>Military Science.</i>	Frank Smith, M. A., <i>Asst. in Zoöl.</i>
S. W. Parr, M. S., <i>Anal. Chem.</i>	W. D. Gibbs, B. S., <i>Asst. in Agr.</i>
D. K. Dodge, Ph. D., <i>English Language and Literature.</i>	C. Van M. Millar, B. S., <i>Asst. in Chem.</i>

## INDIANA.

**School of Agriculture, Horticulture, and Veterinary Science of Purdue University, La Fayette.**

## COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S.

## BOARD OF INSTRUCTION.

Jas. H. Smart, M. A., LL. D., *Pres.*  
 Wm. F. M. Goss, M. S., *Experimental Engin.*  
 Moses C. Stevens, M. A., *Higher Math.*  
 Oscar J. Craig, M. A., PH. D., *Polit. Economy and History.*  
 James Troop, M. S., *Hort. and Ent.*  
 Arthur L. Green, PH. C., *Dean School of Pharmacy.*  
 Henry A. Huston, M. A., A. C., *Agr. Chem.*  
 Mrs. Emma Mont. McRae, *Lady Prin.; English Literature.*  
 Joseph C. Arthur, D. SC., *Vegetable Physiol. and Pathology.*  
 Alfred E. Phillips, C. E., M. A., *Civil Engin.*  
 Stanley Coulter, M. A., PH. D., *Biol.*  
 Anna Von Holland, *Modern Languages.*  
 W. C. Latta, M. S., *Agr.*  
 Erastus Test, M. A., M. D., *Prin. Preparatory Dept.*  
 Winthrop E. Stone, M. A., PH. D., *Organic and Inorganic Chem.; Dir. Chem. Lab.*  
 M. J. Golden, *Practical Mech.*  
 Chas. S. Plumb, B. S., *Agr. Science.*  
 John J. Flather, PH. B., M. M. E., *Mech. Engin.*  
 Thos. G. Alford, M. A., *Math.*  
 Alfred M. Amadon, M. A., *Math.*  
 W. K. Hatt, B. A., C. E., *(Assoc.) Civil Engin.*  
 Harold B. Smith, M. E., *Elect. Engin.*  
 A. W. Duff, M. A., B. Sc., *Physics and Theory of Elect.*  
 A. W. Bitting, B. S., *Vet. Science.*  
 Walter Jones, PH. D., *Anal. Chem.*  
 David D. Johnson, 1st Lieut. 5th Artillery, U. S. A., *Military Science and Tactics; Asst. in Math.*  
 Wm. P. Turner, *Instr. Machine Work.*  
 Carolyn Gerrish, *Instr. Elocution and English.*  
 Abby Lytle, *Instr. Industrial Art.*  
 Geo. Spitzer, PH. G., *Instr. Pharmacy.*  
 James D. Hoffman, B. M. E., *Instr. Wood Shop.*  
 Julius Stuermer, PH. G., *Instr. Materia Medica.*  
 Chas. D. Peterson, B. C. E., *Instr. Mech. Drawing.*  
 Anna E. Baker, M. S., *Instr. Wood Carving and Model Drawing.*  
 Glasgow A. Read, *Instr. Foundry and Forging.*  
 Stephen G. Wright, B. S., *Asst. in Vegetable Pathology and Physiol.*  
 Richard A. Smart, B. M. E., *Asst. in Mech. Lab.*  
 Wm. H. Test, B. S., *Asst. in Chem.*  
 Katherine E. Golden, M. S., *Asst. in Biol.*  
 Frank W. Brady, B. M. E., *Asst. in Elect.*  
 Geo. R. Ives, B. S., *Asst. in Agr.*  
 Edward C. Off, B. M. E., *Asst. in Engin.*  
 Robert D. Hawkins, B. M. E., *Asst. in Wood Shop.*  
 John E. Kolb, B. M. E., *Asst. in Foundry and Forging.*  
 Robert S. Moore, B. M. E., *Asst. in Machine Work.*  
 John D. Thomson, B. M. E., *Asst. in Mech. Drawing.*  
 E. H. Neff, M. E., *Asst. in Machine Design.*  
 Leonard D. Worden, PH. G., *Asst. in Pharmacy.*  
 Benj. M. Hoak, *Asst. in Pharmacy.*  
 M. D. Strout, *Asst. in Mech. Lab.*  
 Elizabeth Day Swan, *Lib.*

## IOWA.

Iowa State College of Agriculture and Mechanic Arts, Ames.

## COURSES OF STUDY.

The courses of study are eight: The course in agriculture, leading to the degree of B. Agr.; the course in veterinary science, leading to the degree of D. V. M.; the course in mechanical engineering, leading to the degree of B. M. E.; the course in civil engineering, leading to the degree of B. C. E.; the course in electrical engineering, leading to the degree of B. E. E.; the course in mining engineering, leading to the degree of B. M. E.; the course in sciences as related to the industries, leading to the degree of B. S., and the course for ladies, leading to the degree of B. L.

The veterinary course requires three years for completion, each of the others, four years. There are also a two years' course and a short winter course in agriculture and dairying.

## BOARD OF INSTRUCTION.

W. M. Beardshear, M. A., LL. D., <i>Pres.</i> ;	C. F. Curtiss, B. S. A., <i>Agr.</i>
<i>Psychology and Ethics.</i>	
M. Stalker, M. Sc., V. S., <i>Vet. Science.</i>	W. B. Niles, D. V. M., <i>Vet. Science.</i>
J. L. Budd, M. H., <i>Hort.</i>	W. H. Meeker, M. E., <i>Mech. Engin.</i>
E. W. Stanton, M. Sc., <i>Math. and Economic Science.</i>	Marie L. Chambers, <i>Elocution; Dir. Music.</i>
I. W. Smith, B. Sc., M. D., <i>Pathology, Histology, Therapeutics, and Comparative Anatomy.</i>	N. E. Hansen, B. Sc., <i>Hort.</i>
J. R. Lincoln, <i>Military Science and Tactics; Mining Engin.</i>	H. C. Wallace, B. AGR., <i>Dairying.</i>
A. A. Bennett, M. Sc., <i>Chem.</i>	S. W. Beyer, B. Sc., <i>Geol. and Zoöl.</i>
Herbert Osborn, M. Sc., <i>Zoöl. and Ent.</i>	Louis B. Spinney, B. M. E., <i>Mech. and Elect. Engin.</i>
W. S. Franklin, M. Sc., <i>Physics and Elect. Engin.</i>	T. Lennox, <i>Instr. Machine Shop.</i>
A. C. Barrows, M. A., D. D., <i>English Literature and History.</i>	Minnie Roberts, B. L., <i>Asst. in Math.</i>
L. H. Pammel, B. AGR., <i>Bot.</i>	Leo Thurlimann, B. Sc., <i>Asst. in Chem.</i>
Mrs. Eliza Owens, <i>Domestic Economy.</i>	Emma Boyd, B. L., <i>Asst. in Chem.</i>
James Wilson, <i>Agr.</i>	Julia A. Wentch, B. L., <i>Asst. in Math.</i>
G. E. Patrick, M. Sc., <i>Agr. Chem.</i>	F. C. Stewart, B. Sc., <i>Asst. in Bot.</i>
A. Marston, C. E., <i>Civil Engin.</i>	Jerry Replogle, D. V. M., <i>House Surgeon.</i>
Margaret Doolittle, B. A., <i>English, Latin, and Rhetoric.</i>	Elmina Wilson, B. C. E., <i>Asst. in Civil Engin.</i>
G. W. Bissell, M. E., <i>Mech. Engin.</i>	F. A. Leighton, <i>Instr. Dairying.</i>
Celia Ford, <i>Preceptress; French and German.</i>	Flora Wilson, B. L., <i>Lib.</i>
D. A. Kent, B. Sc., <i>Agr.</i>	H. Nordstram, <i>Instr. Carpentry.</i>
	W. W. Clark, <i>Instr. Blacksmithing.</i>
	Genevieve Westermanu, <i>Instr. Piano and Organ.</i>
	Carrie Scott, <i>Instr. Violin and Theory.</i>
	A. B. Morse, D. V. S., M. D. ( <i>Des Moines</i> ), <i>Non-resident Lecturer on Vet. Science.</i>

## KANSAS.

Kansas State Agricultural College, Manhattan.

## COURSES OF STUDY.

The regular course of study requires four years for completion and leads to the degree of B. S. Special and post-graduate courses are also provided. The degree of M. S. is given upon post-graduate study with satisfactory evidence of proficiency, after three years, in science and industrial arts.

## BOARD OF INSTRUCTION.

Geo. T. Fairchild, LL. D., *Pres.*; *Logic and Philosophy.*  
 G. H. Fallyer, M. S., *Chem. and Min.*  
 E. A. Popeno, M. A., *Hort. and Ent.*  
 D. E. Lantz, M. S., *Lib.; Math.*  
 J. D. Walters, M. S., *Industrial Art and Designing.*  
 I. D. Graham, M. A., *Sec.; Instr. Book-keeping.*  
 O. E. Olin, *English Language and Literature.*  
 Mrs. Nellie S. Kedzie, M. S., *Household Economy and Hygiene.*  
 Mrs. Elida E. Winchip, *Supt. Sewing.*  
 O. P. Hood, B. S., *Mech. and Engin.; Supt. Shops.*  
 A. B. Brown, M. A., *Music.*  
 J. S. C. Thompson, *Supt. Printing.*  
 F. H. White, M. A., *History and Polit. Science.*

C. C. Georgeson, M. S., *Agr.; Supt. Farm.*  
 E. B. Bolton, Capt. 23d Infantry, U. S. A., *Military Science and Tactics.*  
 E. R. Nichols, M. A., *Physics.*  
 N. S. Mayo, M. S., D. V. S., *Physiol. and Vet. Science.*  
 J. T. Willard, M. S., *Chem.*  
 A. S. Hitchcock, M. S., *Bot.*  
 S. C. Mason, M. S., *Hort.*  
 Josephine Harper, *Instr. Math.*  
 Alice Rupp, *Instr. English.*  
 H. M. Jones, B. A., *Instr. Rhetoricals.*  
 C. M. Breese, M. S., *Asst. in Chem.*  
 Julia R. Pearce, B. S., *Asst. Lib.*  
 Bessie B. Little, B. S., *Asst. in Sewing.*  
 Wm. Baxter, *Foreman Greenhouse.*  
 W. L. House, *Foreman Carpenter Shop.*  
 E. Harrold, *Foreman Iron Shop.*

## KENTUCKY.

## Agricultural and Mechanical College of Kentucky, Lexington.

## COURSES OF STUDY.

The regular courses of study are six, each requiring four years for completion: The agricultural course, leading to the degree of B. S.; the scientific course, leading to the same degree; the classical course, leading to the degree of B. A.; the mechanical engineering course, leading to the degree of M. E.; the civil engineering course, leading to the degree of C. E.; and the normal course, leading to the degree of B. Ped. Certificates of proficiency are given to those who do not complete a course undertaken.

## BOARD OF INSTRUCTION.

J. K. Patterson, Ph. D., *Pres.; Metaphysics and Civil History.*  
 J. Shackleford, M. A., *V. Pres.; English Language and Literature.*  
 Robert Peter, M. D. (*Emeritus*), *Chem.*  
 J. G. White, M. A., *Math. and Astronomy.*  
 F. M. Helvetti, M. A., *French and German Languages and Literature.*  
 J. H. Neville, M. A., *Latin and Greek Languages and Literature.*  
 J. H. Kastle, Ph. D., *Chem.*  
 R. N. Roark, B. A., *Prin. Normal Dept.*  
 H. Garman, *Zoöl. and Ent.*  
 C. W. Mathews, B. S., *Agr., Hort. and Bot.*  
 J. P. Nelson, M. A., *Civil Engin. and Physics.*  
 M. L. Pence, M. S., *asst. Civil Engin. and Physics.*

F. Paul Anderson, B. M. E., *Mech. Engin.*  
 C. D. Clay, 1st Lient., U. S. A., *Military Science.*  
 J. W. Pryor, M. D., *Anatomy and Physiol.*  
 W. K. Patterson, *Prin. Academy.*  
 J. L. Logan, B. A., *Asst. in Academy.*  
 J. W. Newman, B. S., *Asst. in Normal Dept.*  
 R. L. Blanton, M. Lit., *Asst. in Greek and Latin.*  
 J. M. Davis, B. A., B. S., *Asst. in Academy.*  
 V. E. Muncey, B. S., *Asst. in Academy.*  
 J. H. Wells, B. M. E., *Asst. in Mech. Engin.*  
 J. R. Johnson, B. M. E., *Asst. in Mech. Engin.*  
 Mrs. Lucy B. Blackburn, *Asst. in Academy.*  
 James Murray, *Practical Hort.*

**State Normal School, Frankfort.****COURSES OF STUDY.**

There are four courses of study: Normal course, agricultural course, mechanical course, and a course in domestic economy.

**BOARD OF INSTRUCTION.**

J. H. Jackson, M. A., *Prin.*  
M. A. Davis, *Teacher.*  
Celia A. Hathaway, *Teacher.*

Ida Joyce Jackson, *Teacher.*  
Lizzie E. Green, *Teacher.*  
J. S. Hathaway, M. A., *Teacher.*

**LOUISIANA.****Louisiana State University and Agricultural and Mechanical College, Baton Rouge.****COURSES OF STUDY.**

The regular courses of study are three, each requiring four years for completion: The course in agriculture, the course in mechanics and civil engineering, and the literary course, the first two leading to the degree of B. S., the last to the degree of B. A. A preparatory department and a two years' commercial course are also provided.

**BOARD OF INSTRUCTION.**

J. W. Nicholson, M. A., LL. D., <i>Pres.</i> ; <i>Math.</i>	C. E. Ives, M. A., <i>Prin. Preparatory Dept.</i>
S. B. Staples, B. S., D. V. S., <i>Vet. Science.</i>	D. N. Barrow, B. S., <i>(Asst.) Agr.</i>
W. H. Goodale, B. A., <i>Civics and Philoso- phy.</i>	B. F. Hoffman, M. A., M. L., <i>(Adjunct) Languages.</i>
E. S. Benton, 1st Lieut. 3d Artillery, <i>U. S. A., Military Science and Tactics.</i>	C. A. Smith, B. A. Ph. D., <i>English and English Literature.</i>
F. H. Burnette, <i>Instr. Hort.</i>	W. W. Clendenin, M. S., M. A., <i>Bot., Myc. and Geol.</i>
H. A. Morgan, B. S. A., <i>Ent. and Zoöl.</i>	C. E. Coates, M. A., Ph. D., <i>Chem. and Min.</i>
J. H. Randolph, jr., C. E., <i>Drawing and Mech.</i>	T. W. Atkinson, B. S., C. E., <i>Instr. Pre- paratory Dept.</i>
E. L. Scott, M. A., <i>Languages.</i>	C. K. Thompson, B. S., C. E., <i>Instr. Pre- paratory Dept.</i>
H. Skolfield, <i>Instr. Bookkeeping.</i>	A. C. Read, M. A., <i>Instr. Preparatory Dept.</i>
Wm. C. Stubbs, Ph. D., <i>Agr.</i>	
W. D. Taylor, C. E., <i>Physics and Civil Engin.</i>	

**Southern University and Agricultural and Mechanical College, New Orleans****COURSE OF STUDY.**

The courses in agriculture require two and four years for completion and lead to the degree of B. S.

**BOARD OF INSTRUCTION.**

H. A. Hill, <i>Pres. ; Math.</i>	A. B. Kennedy, <i>Economic Science.</i>
Hugh Jamieson, <i>Agr.</i>	V. L. Roy, <i>Chem. and Physics.</i>
William Seymour, <i>Mech.</i>	W. J. Nickerson, <i>Music.</i>
L. M. Martinet, <i>Bot.</i>	Chas. Roos, <i>English.</i>
S. M. Angell, M. D., <i>Anatomy and Vegeta- ble Pathology.</i>	E. E. Duncan, <i>Matron.</i>

## MAINE.

## The Maine State College, Orono.

## COURSES OF STUDY.

Five full courses of study are provided, each requiring four years for completion: A course in agriculture, a course in chemistry, and a course in science and literature, each leading to the degree of B. S.; a course in civil engineering, leading to the degree of B. C. E.; and a course in mechanical engineering, leading to the degree of B. M. E. Special courses are also provided, leading to certificates.

## BOARD OF INSTRUCTION.

Abram W. Harris, M. A., PH. D., <i>Pres.</i>	Fred P. Briggs, B. S., <i>Natural History.</i>
Geo. H. Hamlin, C. E., <i>Civil Engin.</i>	Nathan C. Grover, B. C. E., <i>Civil Engin.</i>
Alfred B. Aubert, M. S., <i>Chem.</i>	Harriet C. Fernald, M. S., <i>Lib.</i>
Allen E. Rogers, M. A., <i>History, Logic and Polit. Economy.</i>	Welton M. Munson, B. S., <i>Hort. and Landscape Gardening.</i>
Walter Balentine, M. S., <i>Agr.</i>	Horace M. Estabrooke, M. S., M. A., <i>Rhetoric and Modern Languages.</i>
Walter Flint, M. E., <i>Mech. Engin.</i>	James S. Stevens, M. S., PH. D., <i>Physics.</i>
Francis L. Harvey, M. S., PH. D., <i>Natural History.</i>	Mark L. Hersey, M. A., Lieut. 9th Infantry, U. S. A., <i>Military Science and Tactics.</i>
James N. Hart, C. E., <i>Math. and Astronomy.</i>	Gilbert M. Gowell, <i>Animal Husbandry.</i>
Howard S. Webb, B. M. E., <i>Shop Work; Sec. and Registrar.</i>	David W. Colby, B. S., <i>Chem.</i>

## MARYLAND.

## Maryland Agricultural College, College Park.

## COURSE OF STUDY.

The course of study requires four years and leads to the degree of B. S.

## BOARD OF INSTRUCTION.

R. W. Silvester, <i>Pres.; Math.</i>	Thos. H. Spence, <i>Latin and French.</i>
H. B. McDonnell, M. D., <i>Chem.</i>	W. L. Taliaferro, <i>Agr.</i>
W. H. Zimmerman, M. A., <i>Physics.; Instr. German.</i>	H. M. Strickler, <i>Physical Culture.</i>
R. H. Alvey, jr., B. A., <i>English.</i>	H. C. Sherman, B. S., <i>Asst. in Chem.</i>
J. H. Grisard, 2d Lieut., U. S. A., <i>Military Science and Tactics, Math. and Drawing.</i>	H. S. Harrisou, <i>Prin. Preparatory Dept.</i>
Jas. S. Robinson, <i>Bot. and Hort.</i>	J. R. Owens, M. D., <i>Registrar; Sec. and Treas. Faculty.</i>
M. P. Scott, <i>Zoöl. and Comparative Anatomy.</i>	C. E. Straughn, <i>Instr. Woodwork.</i>
	T. P. Engle, <i>Instr. Forging and Smithing.</i>

## MASSACHUSETTS.

## Massachusetts Agricultural College, Amherst.

## COURSE OF STUDY.

The course of study requires four years and leads to the degree of B. S.

## BOARD OF INSTRUCTION.

H. H. Goodell, M. A., LL. D., *Pres.*; *Modern Languages and English Literature.*  
 Levi Stockbridge, *Agr.*  
 C. A. Goessmann, Ph. D., LL. D., *Chem.*  
 S. T. Maynard, B. S., *Bot. and Hort.*  
 C. D. Warner, B. S., *Math. and Physics.*  
 Charles Wellington, Ph. D., (*Assoc.*)  
*Chem.*  
 C. H. Fernald, Ph. D., *Zoöl.*  
 C. S. Walker, Ph. D., *Mental and Polit.*  
*Science.*  
 W. P. Brooks, B. S., *Agr.*

W. M. Dickinson, 1st Lieut. 17th Infantry, U. S. A., *Military Science and Tactics.*  
 G. F. Mills, M. A., *English.*  
 R. W. Lyman, LL. B., *Lecturer on Farm Law.*  
 J. B. Paige, V. S., *Vet. Science.*  
 E. R. Flint, Ph. D., *Asst. in Chem.*  
 G. E. Stone, Ph. D., *Asst. in Bot.*  
 A. C. Washburne, *Asst. in Math.*  
 H. Babson, B. A., *Asst. in English.*  
 F. S. Cooley, B. S., *Asst. in Agr.*

## MICHIGAN.

Michigan Agricultural College, *Agricultural College.*

## COURSES OF STUDY.

The courses of study are two, each requiring four years for completion and leading to the degree of B. S.: the agricultural course and the mechanical course. A post-graduate course is also provided.

## BOARD OF INSTRUCTION.

L. G. Gorton, *Pres.*  
 R. C. Kedzie, M. A., M. D., *Chem.*; *Curator Chem. Lab.*  
 W. B. Barrows, B. S., *Zoöl. and Ent.*; *Curator General Museum.*  
 William J. Beal, M. S., Ph. D., *Bot. and Forestry; Curator Bot. Museum.*  
 E. A. A. Grange, V. S., *Vet. Science.*  
 I. H. Butterfield, *See.*  
 Levi R. Taft, M. S., *Hort. and Landscape Gardening; Supt. Hort. Dept.*  
 Howard Edwards, M. A., LL. D., *English Literature and Modern Languages.*  
 C. L. Weil, B. S., *Mech. Engin.; Dir. Shops.*  
 Herman K. Vedder, C. E., *Math. and Civil Engin.*  
 C. D. Smith, M. S., *Agr.; Supt. Farm.*  
 Edson A. Lewis, 2d Lieut. 18th Infantry, U. S. A., *Military Science and Tactics.*  
 Frank S. Kedzie, (*Adjunct*) *Chem.*  
 William S. Holdsworth, M. S., (*Asst.*) *Drawing.*

Philip B. Woodworth, B. S., M. E., (*Asst.*) *Physics.*  
 Alvin B. Noble, Ph. B., (*Asst.*) *English Literature and Modern Languages.*  
 W. O. Hedrick, B. S., (*Asst.*) *History and Polit. Economy.*  
 F. B. Mumford, B. S., (*Asst.*) *Agr.*  
 J. N. Hatch, *Instr. Math.*  
 Warren Babcock, jr., B. S., (*Asst.*) *Math.*  
 P. M. Chamberlain, M. E., (*Asst.*) *Mech. Engin.*  
 D. J. Crosby, B. S., *Instr. English.*  
 A. L. Westcott, B. M. E., *Instr. Mech. Engin.*  
 G. C. Davis, M. S., *Instr. Ent.*  
 C. F. Wheeler, B. S., *Instr. Bot.*  
 R. C. Bradley, *Asst. Sec.*  
 F. B. Bender, *Foreman Wood Shops.*  
 E. A. Edgerton, *Engin.*  
 Mrs. Linda E. Landon, *Lib.*  
 Thomas Gunson, *Foreman Greenhouses.*  
 Walter D. Groesbeck, B. S., *Foreman Iron Shops.*

## MINNESOTA.

College of Agriculture of the University of Minnesota. *Minneapolis.*

## COURSE OF STUDY.

The course of study requires four years for completion, and leads to the degree of B. Agr.

## BOARD OF INSTRUCTION.

Cyrus Northrop, LL. D., <i>Pres.</i>	Harry Snyder, B. S., <i>Agr. Chem.</i>
W. M. Hays, B. S. A., <i>Agr.</i>	M. H. Reynolds, M. D., V. M., <i>Vet. Science.</i>
S. B. Green, B. S., <i>Hort.</i>	Thos. Shaw, <i>Animal Husbandry.</i>
Otto Lugger, Ph. D., <i>Ent. and Bot.</i>	T. L. Haecker, <i>Instr. Dairying.</i>
H. W. Brewster, B. A., ( <i>Asst.</i> ) <i>Math.</i>	

## School of Agriculture of the University of Minnesota, St. Anthony Park.

## COURSE OF STUDY.

The course of study requires three years for completion, and leads to a certificate. A short course in dairying is also given.

## BOARD OF INSTRUCTION.

H. W. Brewster, B. A., <i>Acting Prin.; Math.</i>	Otto Lugger, Ph. D., <i>Zoöl and Ent.</i>
W. M. Hays, B. S. A., <i>Agr.</i>	M. H. Reynolds, M. D., V. M., <i>Physiol. and Vet. Science.</i>
William Robertson, B. S., <i>Physics and Language.</i>	Thos. Shaw, <i>Animal Husbandry.</i>
C. R. Aldrich, <i>Shopwork and Drawing.</i>	Harry Snyder, B. S., <i>Chem.</i>
T. L. Haecker, <i>Dairy Husbandry.</i>	J. A. Vye, <i>Penmanship and Accounts.</i>
Samuel B. Green, B. S., <i>Hort. and Applied Bot.</i>	Florence A. Brewster, <i>Lib.</i>
	J. M. Drew, <i>Physical Geography and Blacksmithing.</i>

## ADDITIONAL INSTRUCTORS IN COURSE IN DAIRYING.

E. J. Graham, <i>Butter-making.</i>
E. L. Aderhold, <i>Cheese-making, Cheddars, and Flats.</i>
John Luchsinger, <i>Manufacture Swiss and Brick Cheese.</i>
J. H. Haecker, <i>Manufacture Edam and Gouda Cheese.</i>

Wm. Boss, <i>Practical Engineering and Steam Fitting.</i>
P. M. Paulson, <i>Butter-making.</i>
W. L. Chappell, <i>Cheese-making.</i>
A. L. Haecker, <i>Milk-testing.</i>

## MISSISSIPPI.

## Mississippi Agricultural and Mechanical College, Agricultural College.

## COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S. Post-graduate courses and a preparatory course are also provided.

## BOARD OF INSTRUCTION.

S. D. Lee, <i>Pres.</i>	W. R. Perkins, B. S., <i>Chem.</i>
W. C. Welborn, B. S., <i>Agr.</i>	J. M. White, M. S., <i>English and History.</i>
A. B. McKay, B. S., <i>Hort.</i>	J. C. Herbert, B. S., <i>Instr. Preparatory Dept.; Instr. Math.</i>
G. C. Creelman, B. S. A., <i>Biol. and Geol.</i>	J. S. Wallace, B. S., <i>Instr. Preparatory Dept.</i>
Tait Butler, V. S., <i>Vet. Science.</i>	A. M. Maxwell, <i>Instr. Writing and Book-keeping.</i>
W. L. Hutchinson, M. S., <i>Chem.</i>	Harry Gwinner, <i>Instr. Drawing; Supt. Mech. Shops.</i>
W. H. Magruder, M. A., <i>Lib.; English.</i>	R. C. King, B. S., <i>Sec. and Purchasing Agent.</i>
B. M. Walker, M. S., <i>Math.</i>	W. H. Barr, M. D., <i>Surgeon.</i>
C. L. Steele, 1st Lieut. 18th Infantry, U. S. A., <i>Military Science and Tactics; (Assoc.) Math.</i>	W. H. Gallaway, <i>Steward and Janitor.</i>
Dabney Lipscomb, M. A., <i>Prin. Preparatory Dept.</i>	J. F. Montgomery, <i>Foreman Farm.</i>
C. T. Ames, B. S., <i>Hort.</i>	
A. M. Herget, B. S., <i>Instr. Drawing and Mech. Shop.</i>	
W. D. Browning, B. M. E., <i>Instr. Drawing and Mech. Shops.</i>	

**Alcorn Agricultural and Mechanical College, Westside.****COURSES OF STUDY.**

The courses of study are three: The academic course of three years; the scientific preparatory course of two years, and the scientific course, requiring four years for completion and leading to the degree of B. S.

**BOARD OF INSTRUCTION.**

<i>_____, Pres.; Mental and Moral Philosophy and Civil Government.</i>	H. C. Ferguson, <i>Instr. Agr.</i>
<i>Joseph Anderson, M. A., Physics, Chem., and History.</i>	B. F. Ousley, B. D., <i>Instr. Biol.</i>
<i>A. J. Howard, M. A., Math.</i>	C. A. Snodgrass, B. S., <i>Instr. English Branches.</i>
<i>H. A. Clark, Polit. Economy, Bookkeeping and Rhetoric.</i>	G. J. Williams, B. S., <i>Instr. English Branches.</i>
<i>H. L. Stiles, B. S., Instr. English Branches.</i>	R. B. Swayzee, <i>Instr. English Branches.</i>
	J. B. Bemiss, <i>Instr. Carpentering.</i>
	W. Logan, <i>Instr. Blacksmithing.</i>

**MISSOURI.****College of Agriculture and Mechanic Arts of the University of Missouri, Columbia.****COURSE OF STUDY.**

The course of study requires four years for completion and leads to the degree of B. Agr. There are also two short courses, a farmers' lecture course of three months, and a two years' elementary course. The college also offers a post graduate course, which requires two years for completion, and leads to the degree of M. Agr.

**BOARD OF INSTRUCTION.**

<i>R. H. Jesse, LL. D., Pres.</i>	Alexander Martin, M. A., LL. D., <i>Lecturer on Agricultural Law.</i>
<i>E. D. Porter, M. A., Ph. D., Dean.</i>	C. W. Marks, B. E., <i>Supt. School Mech. Arts.</i>
<i>W. J. Quick, B. S., Agr.</i>	C. B. Rearick, <i>Drawing.</i>
<i>P. Schweitzer, Ph. D., Chem.</i>	H. Van Blarcom, <i>Asst. in Mech. Arts.</i>
<i>E. A. Allen, L. D., English.</i>	M. S. King, <i>Instr. Commercial School.</i>
<i>L. M. DeFoe, Ph. D., Math.</i>	J. W. Connaway, M. D., D. V. S., <i>Vet. Science.</i>
<i>G. D. Purinton, M. A., Ph. D., M. D., Biol.</i>	C. A. Keffer, M. H., <i>Hort.</i>
<i>M. L. Lipscomb, M. A., Physics.</i>	F. C. Hicks, Ph. D., <i>History and Polit. Science.</i>
<i>S. A. Smoke, Lieut., U. S. A., Military Science.</i>	
<i>G. C. Broadhead, M. S., Geol. and Min.</i>	

**Lincoln Institute, Jefferson City.****COURSE OF STUDY.**

No course of study in agriculture has been arranged owing to the small amount of money appropriated for that purpose.

**BOARD OF INSTRUCTION.**

<i>Inman E. Page, M. A., Pres.; Metaphysics and School Economy.</i>	A. P. Hollis, <i>Language and History.</i>
<i>J. L. Love, B. A., Math.</i>	J. M. Rutledge, <i>Asst. in Math.</i>
<i>R. L. Harris, Natural Science.</i>	Luellen Williams, <i>Asst. in Language.</i>
<i>W. A. Magee, Supt. Industrial Dept.</i>	G. B. Johnson, <i>Asst. in Industrial Dept.</i>

*L. C. Anthony, Matron.*

## MONTANA.

The Montana College of Agriculture and Mechanic Arts, Bozeman.

## COURSES OF STUDY.

There are courses of study in agriculture, domestic economy, applied science, and business. The first three require four years each for completion and lead to degrees; the business courses require one and two years and lead to no degree. Preparatory work is also provided.

## BOARD OF INSTRUCTION.

A. M. Ryon, M. E., <i>Pres.</i> ; <i>Engin.</i>	R. E. Chandler, M. E., <i>Math. and Mech. Engin.</i>
S. M. Emery, <i>Hort.</i>	W. L. Williams, V. S., <i>Vet. Science.</i>
Luther Foster, M. S. A., <i>Agr. and Bot.</i>	B. F. Maiden, B. A., <i>English; Prin. Preparatory Dept.</i>
F. W. Traphagen, Ph. D., F. C. S., <i>Chem.</i>	
<i>and Natural Sciences.</i>	
	H. G. Phelps, <i>Prin. Business Dept.</i>

## NEBRASKA.

Industrial College of the University of Nebraska, Lincoln.

## COURSES OF STUDY.

The courses of study are as follows, each requiring four years for completion and leading to the degree of B. S.: General scientific course, electrical and steam engineering course; agricultural course, and civil engineering course. One and two years' courses in elementary agriculture are also provided.

## BOARD OF INSTRUCTION.

James H. Canfield, M. A., <i>Chancellor.</i>	H. N. Allen, Ph. D., <i>(Adjunct) Physics.</i>
C. L. Ingersoll, M. S., <i>Dean; Agr.</i>	T. M. Hodgman, B. A., <i>(Adjunct) Math.</i>
H. H. Nicholson, M. A., <i>Chem.</i>	R. W. Furnas, <i>Lecturer on Forestry.</i>
H. E. Hitchcock, Ph. D., <i>Math.</i>	O. V. P. Stout, B. C. E., <i>(Adjunct) Civil Engin.</i>
L. A. Sherman, Ph. D., <i>English Literature.</i>	Lawrence Bruner, <i>Instr. Ent.</i>
C. E. Bessey, Ph. D., <i>Bot.</i>	G. B. Hussey, Ph. D., <i>Asst. Prin. Preparatory Dept.</i>
Rachel Lloyd, Ph. D., <i>Anal. Chem.</i>	Mary A. Tremain, <i>Instr. History.</i>
DeW. B. Brace, Ph. D., <i>Physics.</i>	Herbert Bates, B. A., <i>Instr. English.</i>
E. W. Davis, Ph. D., <i>Math.</i>	C. R. Richards, M. E., <i>Manual Training.</i>
J. J. Pershing, 2d Lieut. 6th Cavalry, U. S. A., <i>Military Science and Tactics.</i>	Wilbur P. Bowen, <i>Instr. Physical Training.</i>
F. W. Adams, B. L., <i>English.</i>	Kate Wilder, <i>Instr. Physiol. and Hygiene.</i>
H. K. Wolfe, B. A., Ph. D., <i>Philosophy.</i>	A. M. Wilson, Ph. D., <i>Instr. Latin.</i>
H. W. Caldwell, Ph. B., <i>American History and Civics.</i>	H. M. Belden, <i>Instr. English.</i>
A. H. Edgren, Ph. D., <i>Romance Languages.</i>	J. C. White, B. Sc., <i>Instr. Agr. Chem.</i>
Laurence Fossler, M. A., <i>(Assoc.) Germanic Languages.</i>	J. Tremain, <i>Instr. Latin.</i>
E. H. Barbour, Ph. D., <i>(Assoc.) Geol.</i>	Cora Parker, <i>Instr. Clay Modeling and Wood Carving.</i>
H. B. Ward, Ph. D., <i>(Assoc.) Zoöl.</i>	Clara Conklin, B. A., <i>Instr. German.</i>
F. M. Fling, Ph. D., <i>(Assoc.) European History.</i>	P. B. Burnett, M. A., <i>Instr. German.</i>
W. G. Taylor, Ph. D., <i>Polit. and Economic Science.</i>	A. L. Candy, M. A., <i>Instr. Math.</i>
F. W. Card, M. S., <i>(Assoc.) Hort.</i>	W. B. Hampshire, M. E., <i>Instr. Drawing.</i>
R. B. Owens, E. E., <i>(Assoc.) Elect. Engin.</i>	Emil Salich, C. E., <i>Lecturer in Sugar School.</i>

## NEVADA.

School of Agriculture of the Nevada State University, Reno.

## COURSE OF STUDY.

The regular course requires four years for completion and leads to the degree of B. S. A short course in agriculture is also provided, requiring five months of each year for four years and leading to no degree.

## BOARD OF INSTRUCTION.

S. A. Jones, M. A., PH. D., <i>Pres.</i>	J. M. Neall, 1st Lient. 4th Cavalry, U. S.
Hannah K. Clapp, M. A., <i>Preceptress and Lib.</i>	A., <i>Military Science and Tactics, Math. and Modern Languages.</i>
W. McN. Miller, B. S., <i>Anatomy, Physics and Geol.</i>	R. H. McDowell, B. S., <i>Agr. and Hort.</i>
R. D. Jackson, PH. B., <i>Mining, Metallurgy and Assaying.</i>	T. W. Cowgill, M. A., <i>English.</i>
J. Warne Phillips, D. S., <i>Chem. and Physics.</i>	Richard Brown, <i>Supt. Mech. Dept.</i>
F. H. Hillman, M. S., <i>Ent. and Bot.</i>	Henry Thurtell, B. S., <i>Mech. and Mech. Drawing.</i>
Mrs. Mary W. Emery, <i>Pedagogy; Prin. Normal School.</i>	James E. Church, jr., B. A., <i>Instr. Latin.</i>
Robert Lewers, <i>Polit. Economy and Commercial Law.</i>	Frederick Stadtmüller, B. S., <i>Chem. and Physics.</i>

## NEW HAMPSHIRE.

New Hampshire College of Agriculture and the Mechanic Arts, Hanover.

## COURSES OF STUDY.

There are five courses of study, each requiring four years for completion and leading to the degree of B. S.: Course in agriculture, course in chemistry, course in mechanical engineering, course in electrical engineering, and general course open to women.

## BOARD OF INSTRUCTION.

C. S. Murkland, M. A., PH. D., <i>Pres.</i>	Chas. L. Parsons, B. S., <i>General and Anal. Chem.</i>
Chas. H. Pettee, M. A., C. E., <i>Dean; Math. and Civil Engin.</i>	Albert Kingsbury, M. E., <i>Mech. Engin.</i>
Henry G. Jesup, M. A., <i>Natural History.</i>	H. H. Lamson, M. D., <i>Biol. and Bact.</i>
Clarence W. Scott, M. A., <i>English Language and Literature.</i>	Geo. L. Teeple, M. E., <i>Instr. Elect. Engin. and Physics.</i>
Geo. H. Whitcher, B. S., <i>Agr.</i>	Edwin B. Davis, B. L., <i>Instr. Modern Languages.</i>
Clarence M. Weed, D. S., <i>Zoöl. and Ent.</i>	John N. Brown, <i>Foreman Machine Work.</i>
Albert H. Wood, B. S., <i>(Assoc.) Agr.</i>	Allen G. Lowell, <i>Foreman Woodwork.</i>
Fred. W. Morse, B. S., <i>Organic Chemistry.</i>	

## NEW JERSEY.

Rutgers Scientific School, New Brunswick.

## COURSES OF STUDY.

There are five distinct courses of study: A course in agriculture, a course in civil engineering and mechanics, a course in chemistry, a course in electricity, and a course in biology. Each course requires four years for completion and leads to the degree of B. S.

## BOARD OF INSTRUCTION.

Austin Scott, Ph. D., LL. D., *Pres.*; *History and Polit. Science.*  
 Jacob Cooper, D. D., D. C. L., *Logic and Mental Philosophy.*  
 Carl Meyer, D. D., *Modern Languages and Literature.*  
 F. C. Van Dyck, Ph. D., *Physics and Experimental Mech.*  
 E. A. Bowser, C. E., LL. D., *Math. and Engin.*  
 C. E. Hart, D. D., *English and Literature.*  
 Louis Bevier, jr., Ph. D., *Greek; Sec. Extension Dept.*  
 E. S. Shunway, Ph. D., *Latin.*  
 A. A. Titsworth, M. S., C. E., *Graphics and Math.*  
 Julius Nelson, Ph. D., *Biol.*  
 B. D. Halsted, D. Sc., *Bot. and Hort.*  
 J. B. Smith, D. Sc., *Ent.*  
 E. B. Voorhees, M. A., *Agr.*  
 W. R. Duryee, D. D., *Ethics, Evidences of Christianity, and English Bible.*

A. H. Chester, M. E., Ph. D., D. Sc., *Chem.*  
 J. J. Brereton, 1st Lieut. 24th Infantry, U. S. A., *Military Science and Tactics.*  
 J. C. Van Dyke, L. H. D., *History of Art.*  
 R. W. Prentiss, *Math. and Astronomy.*  
 E. R. Payson, Ph. D., *History and Art of Teaching.*  
 E. L. Stephenson, Ph. D., *History.*  
 I. S. Upson, M. A., *Lib. and Registrar.*  
 C. L. Speyers, Ph. B., *(Assoc.) Chem.*  
 Thomas Logie, Ph. D., *Romance Languages.*  
 E. L. Barbour, *Instr. Elocution.*  
 G. A. Mitchell, B. S., *Asst. in Chem.*  
 W. E. Breazeale, M. Ph., *Instr. Math.*  
 Eugene Betts, B. S., *Instr. Elec. and Physics.*  
 L. R. Gibbs, M. A., *Instr. and Extension Lecturer in English.*  
 Woldemar Loehrer, *Instr. Modern Languages.*  
 W. S. Myers, B. S., F. C. S., *Asst. in Chem.*

## NEW MEXICO.

## New Mexico College of Agriculture and Mechanic Arts, Las Cruces.

## COURSES OF STUDY.

The courses of study are four: A course in science and agriculture, a course in mechanical engineering, a course in civil engineering, and a classical and scientific course.

## BOARD OF INSTRUCTION.

H. Hadley, M. A., *Pres.*  
 A. E. Blount, M. A., *Hort. and Agr.*  
 E. O. Wooton, B. S., *Bot.*  
 Arthur Goss, B. S., A. C., *Chem.*  
 J. P. Owen, *History and Polit. Science.*  
 T. D. A. Cockerell, *Biol.*

C. T. Haggerty, B. S., *Math.*  
 A. J. Wiechardt, M. M. E., *Mech. Engin.*  
 R. F. Hare, M. S., *Asst. in Chem.*  
 F. F. Barker, LL. B., *Instr. Languages.*  
 A. E. Davison, *Prin. Preparatory School.*

## NEW YORK.

## College of Agriculture of Cornell University, Ithaca.

## COURSES OF STUDY.

The regular course of study requires four years for completion and leads to the degree of B. S. A post-graduate course, leading to the degree of M. S., is provided and special courses are also arranged.

## BOARD OF INSTRUCTION.

Jacob G. Schurman, B. A., D. Sc., LL. D., Pres.	L. H. Bailey, M. S., <i>General and Experimental Hort.</i>
Geo. C. Caldwell, B. S., Ph. D., <i>Agr. and Anal. Chem.</i>	Henry H. Wing, M. S., ( <i>Asst.</i> ) <i>Animal Industry and Dairy Husbandry.</i>
James Law, F. R. C. V. S., <i>Vet. Medicine and Surgery.</i>	Louis M. Dennis, Ph. B., B. S., ( <i>Asst.</i> ) <i>Anal. Chem.</i>
Albert N. Prentiss, M. S., <i>Bot., Hort. and Arbor.</i>	Geo. F. Atkinson, Ph. B., ( <i>Asst.</i> ) <i>Cryptogamic Bot.</i>
Isaac P. Roberts, M. AGR., <i>Agr.</i>	Willard W. Rowlee, D. Sc., ( <i>Asst.</i> ) <i>Bot.</i>
John H. Comstock, B. S., <i>Ent. and General Invertebrate Zoöl.</i>	E. G. Lodeman, B. S., <i>Instr. Hort.</i>
G. C. Watson, M. S., <i>Asst. in Agr.</i>	A. D. MacGillivray, <i>Asst. in Ent.</i>

## NORTH CAROLINA.

## The North Carolina College of Agriculture and Mechanic Arts, Raleigh.

## COURSES OF STUDY.

The general courses of study are two, each requiring four years for completion: Agricultural course, leading to the degree of B. S. A., and mechanical course, leading to the degree of B. E.

## BOARD OF INSTRUCTION.

Alexander Q. Holladay, <i>Pres.; History.</i>	C. B. Park, <i>Supt. Shops.</i>
B. Irby, M. S., <i>Agr.</i>	R. E. L. Yates, M. A., ( <i>Adjunct</i> ) <i>Math.</i>
W. F. Massey, C. E., <i>Hort., Arbor. and Bot.</i>	B. S. Skinner, <i>Asst. in Agr. and Hort. Practice.</i>
W. A. Withers, M. A., <i>Chem.; Sec.</i>	L. T. Yarborough, B. E., <i>Instr. Mech.</i>
D. H. Hill, jr., M. A., <i>English.</i>	S. E. Asbury, B. S., <i>Instr. Chem.</i>
Richard Henderson, Lieut., U. S. N., <i>Military Tactics.</i>	C. B. Williams, B. S., <i>Instr. Chem.</i>
W. C. Reddick, B. A., C. E., <i>Mech. and Applied Math.</i>	J. T. Meacham, B. S., <i>Instr. Dairying.</i>
F. E. Emery, B. S., ( <i>Asst.</i> ) <i>Agr.</i>	J. P. Williamson, M. D., <i>Lecturer on Vet. Science.</i>
C. M. Pritchett, <i>Instr. Mech.</i>	Mrs. Sue C. Carroll, <i>Matron.</i>
	J. B. Dunn, M. D., <i>Physician.</i>

## NORTH DAKOTA.

## North Dakota Agricultural College, Fargo.

## COURSES OF STUDY.

The course in agriculture requires four years for completion and leads to the degree of B. S. In addition to the regular course there is a short course in agriculture and domestic economy, which requires three months in each of two consecutive winters for completion.

## BOARD OF INSTRUCTION.

J. B. Power, <i>Pres.</i>	L. S. Bottenfield, M. A., <i>Modern Languages.</i>
E. F. Ladd, B. S., <i>Chem.</i>	H. W. McArdle, B. S., <i>Instr. Math.</i>
T. D. Hiuebauch, M. S., V. S., <i>Vet. Science.</i>	W. H. Whalen, Ph. B., <i>Instr. English.</i>
C. B. Waldron, B. S., <i>Hort. and Forestry.</i>	W. G. Hayden, <i>Accountant and Bursar.</i>
H. L. Bolley, M. S., <i>Bot. and Zoöl.</i>	E. E. Kaufman, B. S. A., <i>Asst. in Agr.</i>
E. S. Keene, B. S., <i>Mech.</i>	Mrs. P. A. Evans, <i>Lib.</i>
J. H. Shepperd, M. S. A., <i>Agr.</i>	W. G. Hiatte, <i>Supt. Farm.</i>

## OHIO.

Ohio State University, Columbus.

## COURSES OF STUDY.

The general courses of study are five, requiring four years each for completion and leading, respectively, to the degrees of B. A., Ph. B., and B. S. There are now three courses leading to the degree of Ph. B.; in one the languages are Latin and French, in another German and French, while in the third English studies predominate. The following technical courses are provided: A course for the degree of B. S. A., requiring four years; a course for the degree of B. S. H., requiring four years; a course for the degree of D. V. M., requiring three years; a course for the degree of C. E., requiring four years; two courses for the degree of M. E., each requiring four years, one in mechanical engineering, and one in electrical engineering; a course for the degree of engineer of mines, requiring four years; a course for the degree of graduate in pharmacy, requiring three years; a short course in agriculture, requiring two years; and a short course in mining, requiring two years. Provision is also made for post-graduate study leading to degrees, and for one year of preparatory work.

## BOARD OF INSTRUCTION.

W. H. Scott, M. A., LL. D., <i>Pres.</i> ; <i>Philosophy.</i>	J. V. Denny, B. A., ( <i>Assoc.</i> ) <i>Rhetoric.</i>
Edward Orton, Ph. D., LL. D., <i>Geol.</i>	G. W. McCoard, M. A., <i>Math.</i>
S. A. Norton, Ph. D., LL. D., <i>Chem.</i>	F. W. Sperr, M. E., <i>Mining Engin.</i>
N. S. Townshend, M. D. ( <i>Emeritus</i> ), <i>Agr.</i>	J. N. Bradford, M. E., <i>Drawing.</i>
S. W. Robinson, C. E., <i>Mech. Engin.</i>	G. P. Coler, B. A., <i>Philosophy.</i>
N. W. Lord, M. E., <i>Min. and Metallurgy.</i>	F. C. Caldwell, B. A., ( <i>Asst.</i> ) <i>Elect. Engin.</i>
S. C. Derby, M. A., <i>Latin.</i>	W. H. Siebert, M. A., ( <i>Asst.</i> ) <i>History and Polit. Science.</i>
W. R. Lazenby, M. AGR., <i>Hort.</i>	Wm. McPherson, jr., M. Sc., ( <i>Asst.</i> ) <i>Chem.</i>
J. R. Smith, M. A., <i>Lib.; Greek.</i>	O. B. Jones, <i>Lib.</i>
H. A. Weber, Ph. D., <i>Agr. Chem.</i>	C. W. Mesloh, B. A., <i>Asst. in German.</i>
B. F. Thomas, Ph. D., <i>Physics.</i>	J. R. Taylor, B. A., <i>Asst. in Drawing.</i>
G. W. Knight, Ph. D., <i>Sec. Faculty; History and Polit. Science.</i>	C. L. Arnold, B. S., <i>Asst. in Math.</i>
H. J. Detmers, D. V. M., <i>Vet. Surgery.</i>	C. B. Morrey, B. A., <i>Asst. in Physiol.</i>
R. D. Bohannan, B. S., C. E., M. E., <i>Math. and Astronomy.</i>	C. A. Dye, Ph. G., <i>Asst. in Pharmacy.</i>
D. S. Kellicott, Ph. D., <i>Zoöl. and Ent.</i>	L. M. Bloomfield, B. AGR., <i>Asst. in Agr. Chem.</i>
C. N. Brown, C. E., <i>Civil Engin.</i>	W. C. Werner, <i>Asst. in Bot.</i>
E. A. Eggers, <i>German.</i>	F. J. Combs, <i>Foreman Forge Rooms.</i>
Albert M. Bleile, M. D., <i>Anatomy and Physiol.</i>	E. A. Kemmler, C. E., <i>Asst. in Civil Engin.</i>
Eugene T. Wilson, 2d Lieut. 1st Artillery, U. S. A., <i>Military Science and Tactics.</i>	J. E. Boyd, B. S., <i>Asst. in Physics.</i>
W. A. Kellerman, Ph. D., <i>Bot. and Forestry.</i>	H. C. Lord, B. S., <i>Asst. in Math. and Astronomy.</i>
Thos. F. Hunt, B. S., <i>Agr.</i>	Florence Bascomb, Ph. D., <i>Asst. in Geol.</i>
G. B. Kauffman, B. S., ( <i>Assoc.</i> ) <i>Pharmacy.</i>	Wallace S. Eldon, M. A., <i>Asst. in Latin and French.</i>
Jas. Chalmers, Ph. D., ( <i>Assoc.</i> ) <i>English Literature.</i>	D. S. White, D. V. M., <i>Asst. in Vet. Medicine.</i>
B. L. Bowen, Ph. D., ( <i>Assoc.</i> ) <i>Romance Languages and Literature.</i>	E. A. Hitchcock, <i>Asst. in Mech. Engin.</i>
	C. W. Weick, <i>Foreman Pattern Room.</i>
	W. A. Knight, <i>Foreman Machine Room.</i>

## OKLAHOMA.

Agricultural and Mechanical College of Oklahoma, *Stillwater*.

## COURSE OF STUDY.

The course of study requires four years for completion, and leads to the degree of B. Sc.

## BOARD OF INSTRUCTION.

R. J. Barker, C. E., <i>Pres.</i> ; <i>Moral, Mental and Economic Science.</i>	A. C. Magruder, B. Sc., <i>Agr.</i>
J. C. Neal, Ph. C., M. D., <i>Natural Science.</i>	G. L. Holter, B. Sc., <i>Chem. and Physics.</i>
E. F. Clark, <i>Math.</i>	F. A. Waugh, B. Sc., <i>Hort.</i>
W. W. Hutto, B. Sc., <i>English Literature; Tactician and Commandant.</i>	H. E. Thompson, B. Sc., <i>Prin. Preparatory Dept.</i>
	J. M. Halbrook, <i>Asst. in Preparatory Dept.</i>

## OREGON.

Oregon State Agricultural College, *Corvallis*.

## COURSES OF STUDY.

The courses of study are three: A course in agriculture, requiring three years for completion and leading to the degree of B. S. A.; a course in mechanical engineering, requiring four years for completion and leading to the degree of B. M. E.; and a course in household economy (for girls) leading to the degree of B. H. E.

## BOARD OF INSTRUCTION.

J. M. Bloss, M. A., <i>Pres.</i> ; <i>Mental and Moral Science.</i>	George Coote, <i>Instr. Hort.</i>
J. D. Letcher, C. E., <i>Math. and Engin.</i>	W. W. Bristow, B. A., <i>Prin. Preparatory Dept.; Bookkeeping.</i>
F. Berchtold, M. A., <i>Modern Languages, History, Drawing and Music.</i>	J. F. Fulton, B. S., A. C., <i>Chem.</i>
Margaret C. Snell, M. D., <i>Household Economy and Hygiene.</i>	C. D. Thompson, B. A., <i>Foreman Agr. Dept.</i>
G. A. Covell, M. S., <i>Mech. and Mech. Engin.</i>	E. M. Belknap, <i>Engin.; Instr. Wood and Metal Work.</i>
F. L. Washburn, B. A., <i>Zoöl. and Ent.</i>	H. R. Clark, <i>Instr. Printing.</i>
H. T. French, M. S., <i>Agr.</i>	Emile Pernot, <i>Instr. Photography and Photo-gravure.</i>
M. Craig, M. S., <i>Bot.</i>	Mrs. Ida Callahan, B. S., <i>Asst. in Preparatory Dept.</i>
G. W. Shaw, M. A., <i>Chem. and Physics.</i>	
J. B. Horner, M. A., <i>English.</i>	

## PENNSYLVANIA.

Pennsylvania State College, *State College*.

## COURSES OF STUDY.

The courses of study are as follows, each requiring four years for completion unless otherwise specified: General science course; Latin scientific course; course in agriculture; course in chemistry; course in physics and electrotechnics; course in civil engineering; course in mechanical engineering; course in mining engineering; course in natural history; course in mechanic arts, requiring three years; ladies' course in literature and science, requiring two years; a special course in chemistry and a special course in mining engineering, each requiring two years for completion. The four years' courses lead to the degree of B. S., the diploma containing mention of line of work pursued. Provision is also made for post-graduate study, leading to advanced degrees, and for preparatory work.

## BOARD OF INSTRUCTION.

Geo. W. Atherton, LL. D., *Pres.; Polit. and Social Science.*

William A. Buckhout, M. S., *Bot. and Hort.*

I. Thornton Osmond, M. S., M. A., *Physics.*

Harriet A. McElwain, M. A., *Lady Prin.; History.*

Louis E. Reber, B. S., M. A., *Mech. and Mech. Engin.*

William Frear, Ph. D., *Sec. Faculty; Agr. Chem.*

Geo. G. Pond, M. A., Ph. D., *Chem.*

Henry P. Armsby, Ph. D., *Lecturer on Animal Chem. and Cattle Feeding.*

Edwin E. Sparks, M. A., *Prin. Preparatory Dept.*

Henry J. Waters, B. AGR., *Agr.*

Henry T. Fernald, Ph. D., *Zoöl.*

Benjamin Gill, M. A., *Latin.*

William C. Thayer, M. A., *Modern Languages.*

E. W. McCaskey, 1st Lieut. 21st Infantry, U. S. A., *Military Science and Tactics.*

John Pemberton, C. E., U. S. N., (Assoc.) *Mech. Engin.*

M. C. Ihlseng, M. E., C. E., Ph. D., *Mining Engin. and Geol.*

J. P. Jackson, B. S., M. E., (Asst.) *Elect. Engin.*

G. C. Butz, M. S., (Asst.) *Hort.*

T. W. Kinkaid, U. S. N., (Asst.) *Mech. Engin.*

Fred E. Foss, B. S., M. A., (Asst.) *Civil Engin.*

F. P. Emery, M. A., (Asst.) *English and Rhetoric.*

W. H. Caldwell, B. S., (Asst.) *Agr.*

H. H. Stoek, B. S., M. E., (Asst.) *Mining Engin. and Metallurgy.*

M. M. Garver, B. S., (Asst.) *Physics.*

F. E. Tuttle, B. A., Ph. D., *Instr. Chem. and Min.*

Jennie J. Willard, *Instr. Music.*

T. R. Beyer, B. S., C. E., *Instr. Civil Engin.*

Anna E. Redifer, *Instr. Industrial Art and Design.*

W. S. Walker, B. S., Ph. D., *Instr. Chem.*

M. J. Thompson, B. A., *Instr. Math.*

W. M. Towle, B. S., *Instr. Mech. Engin. and Foreman Shops.*

J. M. Willard, B. A., *Instr. Math.*

T. C. Hopkins, M. S., M. A., *Instr. Geol.*

E. W. Runkle, M. A., Ph. D., *Instr. Psychology and Ethics.*

F. J. Pond, B. S., *Asst. in Chem.*

E. P. Butts, B. S., *Asst. in Civil Engin.*

Hervey E. Dunkle, B. S., *Asst. in Mech. Drawing.*

J. M. Wolfe, M. A., *Instr. Math. in Preparatory Dept.*

W. M. Taggart, *Instr. English and Latin in Preparatory Dept.*

G. W. Hoskins, *Instr. Physical Training.*

## RHODE ISLAND.

## Department of Agriculture and Mechanic Arts of Brown University, Providence.

## COURSES OF STUDY.

The courses of study are five, each requiring four years for completion: The course for the degree of B. A., the course for the degree of Ph. B., the course for the degree of B. S., the course for the degree of C. E., and the course for the degree of M. E. Studies in agriculture and ancillary sciences forming a portion of the work of the fourth year are required of all students appointed to the scholarships afforded by the income of the national grant. A continually widening range of studies in the branches relating to agriculture, and in the various mathematical and mechanical arts, is offered to all the students in the university.

## BOARD OF INSTRUCTION.

E. B. Andrews, D. D., LL. D., *Pres.*; *Moral and Intellectual Philosophy.*  
 Albert Harkness, Ph. D. (*Emeritus*) *Greek.*  
 B. F. Clark, M. A., *Math. and Engin.*  
 J. H. Appleton, M. A., *Chem.*  
 E. W. Blake, M. A., *Physics.*  
 J. W. P. Jenks, M. A., *Agr. Zoöl.*  
 W. C. Poland, M. A., *Fine Arts.*  
 Alonzo Williams, M. A., *German.*  
 A. S. Packard, Ph. D., *Zoöl. and Geol.*  
 N. F. Davis, M. A., *Pure Math.*  
 W. W. Bailey, B. P., *Bot.*  
 Winslow Upton, M. A., *Astronomy.*  
 C. V. Chapin, M. D., *Physiol.; Dir. Physical Culture.*  
 J. I. Manatt, LL. D., *Greek.*  
 J. F. Jameson, Ph. D., *History.*  
 W. C. Bronson, M. A., (*Assoc.*) *English Literature.*  
 A. G. Harkness, M. A., (*Assoc.*) *Latin.*  
 H. B. Gardner, Ph. D., *Polit. Economy.*  
 J. M. Manly, Ph. D., *English Language.*  
 G. G. Wilson, Ph. D., (*Assoc.*) *Polit. and Social Science.*  
 W. G. Everett, M. A., *Instr. Latin and Greek.*  
 H. P. Manning, Ph. D., *Instr. Math.*  
 F. T. Guild, M. A., *Sec. Faculty.*  
 E. H. Brownell, *Instr. Civil Engin.*  
 H. C. Bumpus, Ph. D., *Comparative Anatomy.*  
 Courtney Langdon, B. A., (*Assoc.*) *Romance Languages.*  
 L. Sears, L. H. D., *Rhetoric.*  
 W. H. Munro, M. A., (*Assoc.*) *History; Dir. Univ. Extension.*

O. E. Randall, M. A., (*Assoc.*) *Mech. Drawing.*  
 J. R. Jewett, Ph. D., (*Assoc.*) *Semitic Languages.*  
 E. B. Delabarre, *Psychology.*  
 E. E. Calder, *Instr. Chem.*  
 L. F. Snow, M. A., *Dean of Women's College.*  
 W. D. Mount, M. E., *Instr. Practical Physics.*  
 A. C. Crowell, M. A., *Instr. French and German.*  
 A. Scott, M. A., *Instr. German.*  
 W. M. Saunders, *Instr. Chem.*  
 J. F. Greene, B. A., *Instr. Greek and Latin.*  
 F. E. Parker, B. A., *Instr. Physical Culture.*  
 Wm. J. Pardee, 1st Lieut. 25th Infantry, U. S. A., *Military Tactics.*  
 J. L. Alger, B. A., *Instr. Pure Math.*  
 C. M. Brink, B. A., *Instr. Rhetoric.*  
 E. C. Burnham, B. S., *Instr. Mech. Drawing and Mech. Engin.*  
 B. Newhall, Ph. D., *Instr. Greek.*  
 A. B. Johnson, M. A., *Instr. Romance Languages.*  
 James Seth, M. A., (*Assoc.*) *Natural Theology.*  
 G. W. Field, Ph. D., (*Assoc.*) *Cellular Biol.*  
 S. S. Colvin, B. P., *Instr. English.*  
 J. Q. Dealey, M. A., *Instr. English.*  
 A. D. Palmer, jr., B. P., *Instr. Physics.*  
 F. P. Gorham, B. A., *Instr. Biol.*  
 I. L. Foster, B. A., *Instr. French.*  
 A. R. Wightman, B. A., *Instr. English.*  
 O. P. Durkee, B. P., *Instr. English.*  
 G. P. Merrill, B. A., *Instr. English.*

## Rhode Island College of Agriculture and Mechanic Arts, Kingston.

## COURSES OF STUDY.

The course of study in agriculture requires four years for completion and leads to the degree of B. Agr. Partial courses and a winter course are also provided.

## BOARD OF INSTRUCTION.

J. H. Washburn, Ph. D., *Pres.; Chem.*  
 C. O. Flagg, B. S., *Agr.*  
 L. F. Kinney, B. S., *Hort. and Bot.*  
 H. J. Wheeler, Ph. D., *Geol.*  
 A. Bosworth, M. A., *Math.*  
 O. C. Wiggin, M. D., *Vet. Science.*  
 W. E. Drake, B. S., *Mech. Engin.*  
 B. B. Howard, LL. B., *Lecturer on Business and Rural Law; Instr. Bookkeeping.*

Samuel Cushman, *Lecturer on Bee Keeping.*  
 E. J. Watson, M. A., *Instr. English, French, and German.*  
 T. C. Rodman, *Instr. Wood and Iron Work.*  
 F. A. Lane, *Instr. Mech. Drawing; Asst. Instr. Woodwork.*  
 M. P. Helme, *Instr. Drawing.*  
 B. L. Hartwell, B. S., *Instr. Music.*

## SOUTH CAROLINA.

Clemson Agricultural College, Clemson College.

## COURSES OF STUDY.

There are two courses of study offered in the freshman and sophomore years, one in chemistry and agriculture and the other in mechanics and engineering.

## BOARD OF INSTRUCTION.

E. B. Craighead, <i>Pres.</i>	S. Tompkins, ( <i>Assoc.</i> ) <i>Civil and Mech. Engin.</i>
H. A. Strode, <i>Math.</i>	J. G. Clinkscales, ( <i>Assoc.</i> ) <i>Math.</i>
M. B. Hardin, <i>Chem.</i>	T. P. Harrison, ( <i>Assoc.</i> ) <i>English.</i>
W. S. McGee, M. S., <i>Agr.</i>	R. N. Brackett, ( <i>Assoc.</i> ) <i>Chem.</i>
C. M. Furman, <i>English.</i>	J. W. Hart, ( <i>Adjunct</i> ) <i>Agr.</i>
C. W. Welch, <i>Physics.</i>	L. A. Clinton, ( <i>Asst.</i> ) <i>Agr.</i>
W. S. Morrison, <i>History.</i>	Williams Welch, <i>Instr. Drawing.</i>
T. Q. Donaldson, jr., <i>Lieut., U. S. A., Military Science.</i>	W. F. Monereiff, <i>Tutor English.</i>

College of Agriculture and Mechanics' Institute, of Claflin University, Orangeburg.

## COURSES OF STUDY.

The regular courses of study are ten: The college classical course, requiring four years for completion and leading to the degree of B. A.; the college scientific course, requiring four years and leading to the degree of B. S.; the college philosophical course, requiring four years and leading to the degree of Ph. B.; the college preparatory course and the normal course, each requiring three years and leading to a diploma; the English course, requiring seven years and leading to a certificate; the kindergarten course, requiring one year and leading to a certificate; the English Bible course, requiring four years and leading to a certificate; the music course, requiring four years and leading to a certificate; and the art course, requiring three years and leading to a certificate. Twenty industrial courses are also provided to be pursued in connection with the courses above. \*

## BOARD OF INSTRUCTION.

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Mrs. L. M. Dunton, M. A., <i>Preceptress; Rhetoric and Literature.</i>	Chas. H. Sears, <i>Pedagogics.</i>
W. L. Bulkley, M. A., <i>Greek, Latin, German and Literature.</i>	Jos. C. Hartzell, jr., <i>Biol. and Min.</i>
Mortimer Glover, B. A., <i>History and Political Science.</i>	C. D. Mead, M. A., <i>Prin. English Schools.</i>
P. F. Stevens, D. D., <i>Math.; Instr. English Bible.</i>	R. C. Bates, <i>Drawing.</i>
	Helen H. Thresher, <i>Music.</i>

## SOUTH DAKOTA.

South Dakota Agricultural College, Brookings.

## COURSES OF STUDY.

The courses of study are four: A course in agriculture; a course in domestic economy; a course in mechanic arts, and a course in pharmacy. The first three require four years for completion and lead to the degree of B. S.; the last requires two years and leads to no degree. There is also a short course in steam engineering.

## BOARD OF INSTRUCTION.

Lewis McLouth, M. A., Ph. D., *Pres.*; *Astronomy and Physics.*  
 E. C. Chilcott, *Agr.*  
 Jno. M. Parkinson, M. A., LL. B., *History and Polit. Economy.*  
 Nellie E. Folsom, B. S., *Preceptress; Instr. Languages.*  
 J. H. Shepard, D. S., *Chem.*  
 L. C. Corbett, *Hort. and Forestry.*  
 A. S. Frost, 1st Lieut. 25th Infantry, U. S. A., *Military Science and Tactics.*  
 W. H. H. Phillips, M. A., Ph. D., *Math.*  
 H. H. Wheaton, *Dairy Science.*  
 D. A. Cormack, D. V. S., *Vet. Science.*  
 H. N. Ott, Ph. M., *Zoöl. and Animal Pathology.*  
 C. G. Hopkins, B. S., *Asst. in Chem.*  
 Lilla A. Harkins, B. S., *Domestic Economy.*

T. A. Williams, M. S., *(Acting) Bot. and Ent.*  
 C. R. Waters, M. A., *English.*  
 Austin B. Crane, B. S., *Asst. in Math.*  
 Hubert B. Bathews, B. S., *Asst. in Physics and Meteorology.*  
 Loren E. Winslow, *Instr. Sten. and Type-writing.*  
 Ed. F. Hewit, *Sec. and Steward.*  
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 A. C. Solberg, *Instr. Wood Shop Work and Mech. Drawing.*  
 Marcus Johnson, *Instr. Forging and Engin., and Steam Fitter.*

## TENNESSEE.

State Agricultural and Mechanical College of the University of Tennessee  
 Knoxville.

## COURSES OF STUDY.

The courses of study are seven: General course, course in agriculture, course in civil engineering, course in mechanical engineering, course in electrical engineering, course in mining engineering, and course in pedagogy. The degrees of B. A. and B. S. are conferred.

## BOARD OF INSTRUCTION.

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 C. F. Vanderford, *Agr.*  
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 J. R. McColl, B. S., *Instr. Mech. and Supl. Shops.*  
 R. L. Watts, B. A., *Instr. Bot. and Hort.*  
 Charles Ferris, B. S., *Asst. in Drawing.*  
 E. Ragland, B. S., *Instr. Math.*  
 A. B. Wegener, *Instr. Physical Culture.*  
 E. Wiley, B. S., *Lib.*  
 J. M. Black, B. A., *Instr. English.*  
 H. T. Livingston, *Instr. Latin.*

## TEXAS.

## State Agricultural and Mechanical College of Texas, College Station.

## COURSES OF STUDY.

The courses of study are two, each extending through four years: The agricultural course, leading by specialization of studies either to the degree of B. S. H. or to the degree of B. S. A., and the mechanical course, leading in a similar way to the degree of B. C. E. or to the degree of B. M. E. Post graduate and special courses are also provided.

## BOARD OF INSTRUCTION.

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J. H. Connell, M. Sc., <i>Agr.</i>	R. H. Price, B. S., <i>Hort. and Bot.</i>
H. H. Harrington, M. S., <i>Chem. and Min.</i>	H. Ness, B. S., ( <i>Asst.</i> ) <i>Hort. and Bot.</i>
C. Puryear, M. A., C. E., <i>Math.</i>	D. W. Spence, B. Sc., C. E., ( <i>Asst.</i> ) <i>Civil Engin. and Physics.</i>
T. C. Bittle, M. A., Ph. D., <i>Languages.</i>	Robert T. Bray, M. E., C. E., ( <i>Asst.</i> ) <i>Mech. Engin.</i>
B. C. Morse, 1st Lieut. 18th Infantry, U. S. A., <i>Military Science and Commandant.</i>	J. Clayton, ( <i>Assoc.</i> ) <i>Agr.</i>
Mark Francis, D. V. M., <i>Vet. Science.</i>	A. C. Gillespie, M. D., <i>Surgeon.</i>
F. E. Giesecke, M. E., <i>Drawing.</i>	J. H. Carter, <i>Sec.</i>
J. C. Nagle, B. S., M. A., C. E., <i>Civil Engin. and Physics.</i>	E. W. Hutchinson, B. C. E., <i>Bookkeeper.</i>
C. W. Hutson, <i>English and History.</i>	Bernard Sbisa, <i>Steward.</i>
R. F. Smith, ( <i>Assoc.</i> ) <i>Math.</i>	C. A. Lewis, <i>Foreman Carpenter Shop.</i>
D. Adriance, M. S., ( <i>Assoc.</i> ) <i>Chem.</i>	J. W. Carson, B. Sc., <i>Foreman Farm.</i>
A. L. Banks, B. Sc., ( <i>Adjunct</i> ) <i>Math.</i>	Jas. B. Watts, <i>Stockman.</i>
W. B. Philpott, M. S., ( <i>Assoc.</i> ) <i>English and History.</i>	

## Prairie View State Normal School. Prairie View.

## COURSE OF STUDY.

The course in agriculture requires two years for completion.

## BOARD OF INSTRUCTION.

S. C. Anderson, M. A., *Prin.*

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Leonora Arvy.	W. B. Woodruff, B. S.
E. H. Holmes.	Harriet F. Kimbro.

## UTAH.

## Agricultural College of Utah, Logan.

## COURSE OF STUDY.

The college work includes five distinctive lines of instruction: Course in agriculture, course in domestic arts, course in mechanic arts, course in civil engineering, business course. There are four special courses: A two years' course in agriculture, a two years' course in domestic arts, a course in mining engineering, a course in irrigation engineering, and a preparatory department. In addition to these special courses there have been organized two courses of winter lectures covering ten weeks each: A course of agricultural lectures and a course of lectures for the domestic arts department. The courses in mechanical and in mining and irrigation engineering will be post-graduate courses of one year each.

## BOARD OF INSTRUCTION.

J. W. Sanborn, B. S., *Pres.; Agr.*  
 E. S. Richman, M. S. A., *Hort. and Bot.*  
 Abby L. Marlatt, M. S., *Domestic Economy.*  
 J. M. Sholl, B. M. E., *Mech. Engin.*  
 J. T. Caine, jr., *Instr. Preparatory Dept.*  
 A. A. Mills, B. S., *Agr.*  
 S. S. Twombly, M. S., D. V. S., *Chem. and Vet. Science.*  
 F. B. Linfield, B. S. A., *Animal Husbandry and Dairying.*  
 J. E. Shepard, *Prin. Commercial Dept.*  
 Mrs. S. A. Eddy, *Instr. Preparatory Dept.*  
 L. S. Throop, *Instr. Music.*

E. J. MacEwan, M. A., *English and Modern Languages.*  
 James Dryden, *Instr. Commercial Dept.*  
 E. A. Little, B. Sc., *Instr. Sewing.*  
 Clara Kenyon, *Elocution; Lib.*  
 F. W. Brewer, M. A., M. D., *Biol.*  
 J. W. Mayo, *Shopwork and Drawing.*  
 H. D. Styer, 1st Lieut. 13th Infantry, U. S. A., *Military Science and Math.*  
 S. Fortier, B. S. A., C. E., *Civil and Hydraulic Engin.*  
 Alex. Lewis, *Vocal Music.*

## VERMONT.

**University of Vermont and State Agricultural College, Burlington.**

## COURSES OF STUDY.

In the department of agriculture the courses of study are four; the agricultural course requiring four years and leading to a degree; the short course in agriculture requiring two years; the special course of one year, and the dairy-school course occupying six weeks.

## BOARD OF INSTRUCTION.

M. H. Buckham, D. D., *Pres.; Polit. and Social Philosophy.*  
 V. G. Barbour, Ph. B., C. E., *Civil Engin.*  
 G. H. Perkins, Ph. D., *Natural History.*  
 J. K. Chickering, M. A., *English Language and Literature and Elocution.*  
 N. F. Merrill, Ph. D., *Chem.*  
 A. L. Daniels, D. S., *Math. and Physics.*  
 J. W. Votey, C. E., *Civil Engin.*  
 Horatio Loomis, D. Sc., *Min.*  
 A. G. Gulley, *Agr. and Hort.*

L. J. Huff, *Modern Languages.*  
 H. E. Tetherly, Capt. 1st Cavalry, U. S. A., *Military Tactics.*  
 F. M. Corse, *Instr. Math.*  
 L. R. Jones, Ph. B., (Assoc.) *Natural History.*  
 J. L. Hills, B. S., *Instr. Chem.*  
 A. W. Ayer, *Instr. Mech. Engin.*  
 F. A. Rich, *Instr. Vet. Science.*  
 H. B. Chittenden, M. A., *Instr. English.*

## VIRGINIA.

**Virginia Agricultural and Mechanical College, Blacksburg.**

## COURSES OF STUDY.

The courses of study are seven, each requiring four years for completion and leading to the degree of B. S.: Agricultural course, horticultural course, applied chemistry course, general science course, civil engineering course, mechanical engineering course, and electrical engineering course. There are also two courses which require two years for completion and lead to a certificate of practical agricultural and practical mechanics.

## BOARD OF INSTRUCTION.

J. M. McBryde, Ph. D., LL. D. *Pres.; Agr. Chem.*  
 L. S. Randolph, M. E. (*Acting*) *Mech. Engin.*  
 W. B. Alwood, *Hort., Ent. and Myc.*  
 E. E. Sheib, Ph. D., *English, History and Polit. Economy.*  
 E. A. Smyth, jr., M. A., *Biol.*  
 T. P. Campbell, M. A., *Modern Languages.*  
 S. R. Pritchard, M. A., (*Adjunct*) *Physics and Elect. Engin.*  
 R. C. Price, *Chem., Min. and Geol.*  
 D. O. Nourse, B. S., *Agr.*  
 J. A. Harman, 2d Lieut. 7th Cavalry, U. S. A., *Military Science and Tactics; (Adjunct) Math. and Physics.*

R. J. Davidson, M. A., *Anal. Chem.*  
 E. P. Niles, D. V. M., *Vet. Science.*  
 W. W. Hurt, *See.; Instr. Math. and Book-keeping.*  
 W. N. Cunningham, *Instr. Machine Work.*  
 J. R. Parrott (*Acting*) *Instr. Woodwork.*  
 T. L. Watson, *Instr. Min. and Geol.*  
 J. Gardner, *Treas.*  
 A. W. Drinkard, B. S., *Asst. in English and History.*  
 W. O. Frith, B. S., *Asst. in Hort.*  
 J. W. Stull, B. S., *Asst. in Math.*  
 R. E. Wright, B. S., *Asst. in Mech. Engin.*

## Hampton Normal and Agricultural Institute, Hampton.

## COURSE OF STUDY.

The course of study requires three years for completion and leads to no degree.

## BOARD OF INSTRUCTION.

H. B. Frissell, D. D., *Prin.; Mental Philosophy.*  
 H. B. Turner, *Pastor; Bible lessons.*  
 Geo. F. Peabody, *Treas. (New York).*  
 F. Chichester, *Asst. Treas. (Hampton).*  
 F. C. Briggs, *Business Agent.*  
 Albert Howe, *Supt. of Industries.*  
 Martha M. Waldron, M. D., *Resident Physician.*  
 Leonora E. Herron, *Lib.*  
 Emily Herron, *Asst. Lib.*  
 Elizabeth Clark, *Lady Principal; Mathematics.*  
 Elizabeth Hyde, *in charge of Academic Dept.*  
 Josephine E. Richards, *in charge of Indian Dept.*  
 C. L. Goodrich, *Agr.*  
 C. C. Tucker, *Manual Training*  
 Helen W. Ludlow, *Rhetoric and Composition.*  
 Dora Freeman, *Reading and Literature.*  
 Myrtilla J. Sherman, *Grammar and Composition.*  
 Jane E. Davis, *Science.*  
 Jane S. Worcester, *History and Geography.*

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 Annie Beecher Scoville, *Bible and History.*  
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 M. A. Price, Clara Snow, Louise Cleaveland, and Ora Brown, *Indian teachers (distinctively).*

## WASHINGTON.

Washington Agricultural College and School of Science, Pullman.

## COURSES OF STUDY.

The courses of study are ten: The course in agriculture, the course in mechanic arts, the course in pharmacy, the course in chemistry, the course in domestic economy, the course in mining engineering, the course in civil engineering, the course in mechanical engineering, the course in electrical engineering, and the course in assaying.

## BOARD OF INSTRUCTION.

E. A. Bryan, M. A., <i>Pres.</i> ; <i>History and Polit. Science.</i>	A. R. Saunders, M. E., <i>Mech. Engin. and Physics.</i>
E. R. Lake, M. S., <i>Agr.</i> , <i>Hort. and Forestry.</i>	O. L. Waller, Ph. M., <i>Math. and Civil Engin.</i>
Nancy L. Van Doren, <i>Preceptress and Lib.</i> ; <i>English Literature.</i>	Elton Fulmer, M. A., <i>Chem.</i>
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James Ferguson, <i>Sec.</i> ; <i>Sten. and Typewriting.</i>	F. T. Dow, B. M. E. ( <i>Asst.</i> ) <i>Mech. Engin.</i>
	G. H. Watt, B. S., <i>Prin. Preparatory Dept.</i>
	Annie Howard <i>Asst. in Preparatory Dept.</i>

## WEST VIRGINIA.

West Virginia University, Morgantown.

## COURSES OF STUDY.

The courses of study are five, each requiring four years for completion: Classical course leading to the degree of B. A.; scientific course, leading to the degree of B. S.; course in mechanical engineering, leading to the degree of B. S. M. E.; course in civil engineering, leading to the degree B. S. C. E.; and course in agriculture, leading to the degree of B. Agr. There is also a department of law, in which the degree of LL. B. is given. Post-graduate work and preparatory work are also provided.

## BOARD OF INSTRUCTION.

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T. C. Miller, M. A., <i>Prin. Preparatory Dept.</i>	W. S. Aldrich, M. E., <i>Mech. Engin. and Mech. Arts.</i>
St. G. T. Brooke, LL. D., <i>Common and Statute Law.</i>	R. A. Armstrong, M. A., <i>Math.</i>
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A. R. Whitehill, Ph. D., <i>Chem. and Physics.</i>	W. F. Reynolds, M. A., ( <i>Asst.</i> ) <i>Metaphysics and English.</i>
J. W. Hartigan, M. A., M. D., D. Sc., <i>Biol.</i>	A. J. Hare, B. A., <i>Asst. in Preparatory Dept.</i>
	Clara Hough, <i>Lib.</i>

## The West Virginia Colored Institute, Farm.

## COURSES OF STUDY.

The courses of study are three: A course in agriculture, requiring three years for completion; a mechanical course, and a normal course.

## BOARD OF INSTRUCTION.

J. Edwin Campbell, Ph. B., <i>Prin.</i> ; <i>Math.</i>	Mrs. J. Edwin Campbell, <i>Instr. Music,</i>
J. H. Hill, <i>English Language.</i>	<i>Painting and Drawing.</i>
J. M. Cantly, jr., <i>Mech.</i>	T. C. Friend, <i>Farmer.</i>

## WISCONSIN.

## College of Agriculture of the University of Wisconsin, Madison.

## COURSES OF STUDY.

The long course requires four years, leading to the degree of B. Agr. The short course in agriculture lasts twelve weeks. The dairy course lasts twelve weeks, with two seasons actual practice in factory, on satisfactory completion of which a dairy certificate is granted.

## BOARD OF INSTRUCTION.

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E. S. Goff, <i>Hort. and Economic Ent.</i>	F. Walker, <i>Instr. at Separators.</i>
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## WYOMING.

## College of Agriculture of the University of Wyoming, Laramie.

## COURSE OF STUDY.

The course of study in the department of agriculture requires four years for completion, and leads to the degree of B. Agr.

## BOARD OF INSTRUCTION.

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Aven Nelson, M. S., M. A., <i>Biol.</i>	E. E. Slosson, M. S., <i>Chem.</i>
E. I. Antrim, Ph. D., <i>Rhetoric and English Literature.</i>	Cora M. McDonald, M. A., <i>Instr. History.</i>
B. C. Buffum, M. S., <i>Bot and Hort.</i>	F. J. Niswander, B. S., <i>Ent., Zool. and Agr.</i>

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Mechanic Arts, J. H. WASHBURN, of Rhode Island.

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Phosphoric acid, **B. W. KILGORE**, of Foods and feeding stuffs, **H. J. PATTERSON**, of Maryland; North Carolina;

Nitrogen, **J. M. BARTLETT**, of Maine; Fermented liquors, **C. A. CRAMPTON**, of Potash, **H. J. WHEELER**, of Rhode Island; Washington, D. C.;

Soils and ash, **A. M. PETER**, of Kentucky; Sugar, **G. L. SPENCER**, of the U. S. Dairy products, **E. H. FARRINGTON**, of Department of Agriculture.

Illinois.

*Abstract Committee,*

**WILLIAM FREAR**, of Pennsylvania;

**W. C. STUBBS**, of Louisiana;

**E. W. HILGARD**, of California;

**W. D. BIGELOW**, of Washington, D. C.;

**JOHN P. STREET**, of New Jersey.

LIST OF STATION PUBLICATIONS RECEIVED AT THE OFFICE OF EXPERIMENT STATIONS DURING 1892 AND 1893.\*

ALABAMA COLLEGE STATION.

Date.	Publication.	Title.
1892.		
January .....	Bulletin No. 34..	Coöoperative Soil Test Experiments.
January .....	Bulletin No. 35..	Glanders.
March .....	Bulletin No. 36..	Some Leaf Blights of Cotton.
March.....	Bulletin No. 37..	Tobacco,
July .....	Bulletin No. 38..	Fertilizers.
November .....	Bulletin No. 39..	Wheat.
December .....	Bulletin No. 41..	Some Diseases of Cotton.
	Annual Report ..	Fifth Annual Report, 1892.
1893.		
January .....	Bulletin No. 40..	Cotton Experiments.
January .....	Bulletin No. 42..	Coöoperative Soil Test Experiments.
May .....	Bulletin No. 43..	Eye Diseases of Domestic Animals.
May .....	Bulletin No. 44..	Tobacco Plant.
June.....	Bulletin No. 45..	Injurious and Beneficial Insects.
July .....	Bulletin No. 46..	Rye vs. Ensilage.
	Bulletin No. 47..	Fruits.
July .....	Bulletin No. 48..	The Effect of Organic Matter on Phosphates. Commercial Fertilizers.
October....	Bulletin No. 49..	Varieties of Wheats and Grasses.
November .....	Bulletin No. 50..	Fruit Tree Blight in General.

ALABAMA CANEBRAKE STATION.

1892.		
March .....	Bulletin No. 14..	Cotton.
July .....	Bulletin No. 15..	Cattle Feeding.
1893.		
July .....	Bulletin No. 16..	Potatoes—Amount of Seed.
July .....	Bulletin No. 17..	Grapes and Some New Fruits.

ARIZONA STATION.

1892.		
April .....	Bulletin No. 5..	Cañaire.
April .....	Bulletin No. 6..	Soils and Waters.
	Annual Report ..	Third Annual Report, 1892.
1893.		
February .....	Bulletin No. 7..	Cañaire.
March .....	Bulletin No. 8..	Cattle Feeding.

ARKANSAS STATION.

1892.		
February .....	Bulletin No. 18..	Some Cotton Experiments at Newport.
May .....	Bulletin No. 19..	Manures and Some Principles in Farm Manuring.
November .....	Bulletin No. 20..	Animal Parasitism. Some Texas Fever Experiments.
December .....	Bulletin No. 21..	Grapes. Some Insect and Fungus Diseases and their Remedies. Spraying Apparatus. Apples and Grapes in Arkansas.
December .....	Bulletin No. 22..	Sorghum and Sugar-cane Culture. Syrup and Sugar-making on Small Farms. Some Field Experiments with Cantaloupes and Corn.
	Annual Report ..	Fifth Annual Report, 1892.
1893.		
March .....	Bulletin No. 23..	Cotton.
July .....	Bulletin No. 24..	Fodder.

\* A list of publications issued by the stations prior to January 1, 1892, was published in the Experiment Station Record, vol. III, p. 937.

## CALIFORNIA STATION.

Date.	Publication.	Title.
1892. January ...	Bulletin No. 96.	Sulphuring in Fruit Drying. Fig Trees at the Experiment Stations. Notes on Persian Palms.
May .....	Bulletin No. 97.	Investigation of California Prunes, Apricots, and Peaches.
May .....	Bulletin No. 97.	Report of Viticultural Work During the Seasons of 1887-'89, Part I.
December .....	Bulletin No. 98.	Distribution of Seeds and Plants.
December .....	Bulletin No. 99.	Root Knots on Fruit Trees and Vines. A New Nozzle Tester. Report for 1891 and 1892.
1893. February .....	Bulletin No. 100.	Investigation of Cattle Foods of California.
May .....	Bulletin No. 101.	Further examination of California Prunes, Apricots, Plums, and Nectarines.
June .....	Bulletin No. 102.	Analyses of Figs and Fig Soils.

## COLORADO STATION.

1892. January ...	Special Bulletin A.	Subjects Investigated by the Experiment Station.
May .....	Bulletin No. 19.	Observations upon Injurious Insects.
August .....	Bulletin No. 20.	The Best Milk-tester for the Practical Use of the Farmer and Dairyman. The Influence of Food upon the Pure Fat Present in Milk.
October .....	Bulletin No. 21.	Sugar Beets. Irish Potatoes. Fruit Raising.
1893. January ...	Bulletin No. 22.	Preliminary Report on the Duty of Water.
April .....	Bulletin No. 23.	Colorado Weeds.
July .....	Bulletin No. 24.	A Few Common Insect Pests.
October .....	Bulletin No. 25.	Progress Bulletin on the Loco and Larkspur.

## CONNECTICUT STATE STATION.

1892. March .....	Bulletin No. 111.	Common Fungus Diseases and their Treatment.
June .....	Bulletin No. 112.	On the Gunning-Kjeldahl Method and a Modification Applicable in the Presence of Nitrates.
September .....	Bulletin No. 113.	Fertilizers.
December .....	Bulletin No. 114.	Fertilizers.
	Annual Report.	Annual Report, 1892.
1893. March .....	Bulletin No. 115.	Common Fungus Diseases and their Treatment.
October .....	Bulletin No. 116.	Fertilizers. Act Concerning Connecticut Fertilizers.

## CONNECTICUT STORRS STATION.

1892. April .....	Bulletin No. 8.	Summary of the Annual Report for 1891.
November .....	Bulletin No. 9.	Soiling and Soiling Crops. Feeding Experiments with Soiling Crops. Fifth Annual Report, 1892.
	Annual Report.	
1893. March .....	Bulletin No. 10.	Results of Experiments with Fertilizers on Different Classes of Soils.
April .....	Bulletin No. 11.	Summary of Annual Report for 1892.

## DELAWARE STATION.

1891. December .....	Bulletin No. 14.	Field Tests upon Indian Corn. Combating Insects by Means of Fertilizers. Notes on a Corn Crambid. Fourth Annual Report, 1891.
	Annual Report.	
1892. January .....	Bulletin No. 15.	Diseases of Crops and their Treatment.
March .....	Bulletin No. 16.	Scarlet Clover.
June .....	Bulletin No. 17.	Hand-power Cream Separators.
September .....	Bulletin No. 18.	Strawberries. A Strawberry Weevil.
December .....	Bulletin No. 19.	Can Peach Rot be Controlled by Spraying?
1893. September .....	Bulletin No. 20.	Anthrax—Precautions Necessary to Prevent its Spread.
	Bulletin No. 21.	Insects Injurious to Stored Grain.

## FLORIDA STATION.

Date.	Publication.	Title.
1892. January ...	Bulletin No. 16..	Corn, Hay, Weevil, Rice, Cane, Texas Blue Grass, and Cotton.
	Bulletin No. 17..	Analysis of the Orange. The Horn Fly. Questions Concerning Stock Diseases.
	Bulletin No. 18..	Grasses. Forage Plants. Tomato Blight.
	Bulletin No. 19..	Tobacco.
1893. September.	Annual Report ..	Annual Report, 1892.
	Bulletin No. 20..	Soils and Fertilizers.

## GEORGIA STATION.

1892. February ..	Bulletin No. 16..	Cotton—Fertilizer, Culture, and Variety Tests.
	Special Bulletin No. 16 $\frac{1}{2}$ .	Announcement regarding Station Publications.
	Bulletin No. 17..	Irish Potatoes; Sweet Potatoes; Tomatoes; Forage Plants.
	Special Bulletin No. 17 $\frac{1}{2}$ .	The Air and the Soil in their relations to Agriculture.
March .....	Circular No. 2..	Crop Report for June, 1892.
October....	Bulletin No. 18..	Cheese and Butter Dairying.
December..	Bulletin No. 19..	Culture of Tobacco.
1893. February ..	Annual Report ..	Fifth Annual Report, 1892.
	Bulletin No. 20..	Fertilizer, Culture and Variety Experiments; Corn and Cotton.
	Bulletin No. 21..	Practical Dairying; Dehorning Cattle; Feed Formulas; Experiments with Oats.

## ILLINOIS STATION.

1892. February ..	Bulletin No. 19..	Experiments with Oats; The Chinch Bug in Illinois.
	Bulletin No. 20..	Field Experiments with Corn.
	Bulletin No. 21..	Horticulture, a General Report.
	Bulletin No. 22..	Experiments with Wheat.
	Bulletin No. 23..	Experiments with Oats.
	Annual Report ..	Fifth Annual Report, 1891-'92.
1893. February ..	Bulletin No. 24..	Variations in Milk.
	Bulletin No. 25..	Field Experiments with Corn.
	Bulletin No. 26 ..	The Forest Tree Plantation.
	Bulletin No. 27..	Some New Points in the Manipulation of the Babcock Milk Test.

## INDIANA STATION.

1892. March .....	Bulletin No. 38..	Small Fruits; Treatment of Powdery Mildew and Black Rot; Vegetables.
	Bulletin No. 39..	Field Experiments with Corn; Sugar Beets; Diseases of the Sugar Beet Root.
	Bulletin No. 40..	The Silo and Silage in Indiana.
	Bulletin No. 41..	Field Experiments with Wheat; Forms of Nitrogen for Wheat.
August ...	Bulletin No. 42..	The Potato—The Relation of Number of Eyes on the Seed Tuber to the Product.
November ..	Annual Report ..	Fifth Annual Report, 1892.
	Bulletin No. 43..	Field Experiments with Corn; The Sugar Beet in Indiana.
March .....	Bulletin No. 44..	Dairy Experiments.
May .....	Bulletin No. 45..	Field Experiments with Wheat; Forms of Nitrogen for Wheat.
August ...	Bulletin No. 46..	A Modification of Grandjeau's Method for the Determination of Humus. Determination of Crude Fiber.
September ..	Bulletin No. 47..	Does it Pay to Shelter Milch Cows in Winter? Upon Skim Milk as a Food for Calves.

## IOWA STATION.

Date.	Publication.	Title.
1892. February ..	Bulletin No. 16..	Flaxseed Meal and Oil Meal. Crop Report for the Farm Department. Varieties of Potatoes. Corn Growing. Experiments with Fungicides. What to Plant on the Home Grounds. Hints for Beginners in Dairy-ing. Lice Affecting Domestic Animals. Sugar Beets.
May .....	Bulletin No. 17..	Feeding Experiments with Milch Cows, Lambs, and Hogs. Sugar Beets for Iowa. Treatments of some Fungus Diseases. Effects of Spraying on Plants and Fruit, and Notes on Insects. Ergotism.
August....	Bulletin No. 18..	Experiments with Sheep. Feeding Colts. Sweet <i>vs.</i> Sour Cream Butter. Diseases of Plants Common to Iowa Cereals. Reports on Inju-rious Insects. The Apple Trees and Apple Crop on the College Farm. A Separating Experiment. Experimental Creamery.
November ..	Bulletin No. 19..	Experiments with New Orchard Fruits, Trees, and Plants. Report of Experiments and Studies in Entomology. The Crossing of Cucurbits. Root Crops. Corn Growing. Depth of Covering Grass Seed. Winter Wheat. Calf feeding. Hog Feeding. Soiling Crops. Hints on Cheese Making. An Automatic Acid Measure.
1893. February ..	Bulletin No. 20..	Steer Feeding. Sugar Beets in Iowa. Machinery and Methods of Spray-ing. Grass Leaf Hoppers. Treatment of Fungus Diseases. Treat-ment of Spot Diseases of the Cherry and Currant, and Potato Blight. Prevention of Corn and Oat Smut. Experiments with Mallein. Rain fall Record.
	Bulletin No. 21..	Investigations in Cheese-making. Colt Feeding. Shrinkage of Wool. Time to Cut Corn. Sweet <i>vs.</i> Ripened Cream Butter. An Aromatic Bacillus of Cheese. Some Bacteriological Work in the Dairy. Im-purities of Clover Seed.

## IDAHO STATION.

1892. September ..	Bulletin No. 1...	Organization and Progress of work of the Experiment Station.
December ..	Bulletin No. 2...	Announcement and Proposed work of the Stations.
1893. March .....	Bulletin No. 3...	The Application of Chemistry to the Agricultural Development of Idaho.
July .....	Bulletin No. 4...	Methods of Preventing Smut in Wheat and Oats. Carbon Bisulphide as a Squirrel Exterminator.

## KANSAS STATION.

1892. August....	Bulletin No. 33..	Experiments with Wheat.
September ..	Bulletin No. 34..	Experiments in Feeding Steers, I.
December ..	Bulletin No. 35..	<i>Actinomycosis Bovis</i> or "Lump Jaw" of Cattle. Some Observations upon Loco.
December ..	Bulletin No. 36..	Experiments with Sorghum and Sugar Beets.
December ..	Bulletin No. 37..	Experiments in Potato Culture.
	Annual report..	Fifth Annual Report, 1892.
1893. March .....	Bulletin No. 38..	Preliminary Report on Rusts of Grain. .
August....	Bulletin No. 39..	Experiments in Feeding Steers, II.
August....	Bulletin No. 40..	Experiments in Wheat.

## KENTUCKY STATION.

1892. March .....	Bulletin No. 38..	Vegetables; Strawberries.
March .....	Bulletin No. 39..	Marls.
March .....	Bulletin No. 40..	Some Common Pests of the Farm and Garden.
July .....	Bulletin No. 41..	Commercial Fertilizers.
September ..	Bulletin No. 42..	Experiments with Wheat and Oats.
December ..	Bulletin No. 43..	Commercial Fertilizers.
1893. January .....	Bulletin No. 44..	Bordeaux Mixture for Apple Pests.
April .....	Bulletin No. 45..	Field Experiments with Fertilizers on Corn, Potatoes, and Tobacco.
August....	Bulletin No. 46..	Commercial Fertilizers.

## LOUISIANA STATIONS.

Date.	Publication.	Title.
1892.	Second series. Bulletin No. 13. Bulletin No. 14. Bulletin No. 15. Bulletin No. 16. Bulletin No. 17. Report.....	Sweet Potatoes. Sugar Cane. Report of Veterinarian. Results of 1891 Obtained on the N. La. Experiment Station. Results of 1891 Obtained on the State Station. Geology and Agriculture—a Preliminary Report upon the Hills of Louisiana. Part I.
	Bulletin No. 18.	Analysis of Commercial Fertilizers and Other Substances Useful to Agriculture.
	Bulletin No. 19.	Forage Crops, Grasses, Clovers and Small Grains.
	Annual Report.	Fifth Annual Report. 1892.
1893.		
January...	Bulletin No. 20.	Tobacco Growing in Louisiana with Results of Experiments at Calhoun.
February...	Bulletin No. 21.	Report of Results for 1892 at Calhoun.
	Bulletin No. 22.	Results of the year 1892.
	Special Bulletin.	The Orange and other Citrus Fruits.
	Report.....	Geology and Agriculture—a Preliminary Report upon the Hills of Louisiana. Part II.

## MAINE STATION.

1892.	Annual Report.	Annual Report for 1892, Parts I, II, III, and IV.
	Bulletin No. 4.	Testing Cream and Milk; Fat Test and Lactometer.
	Report.....	Director's Report for 1892.

## MARYLAND STATION.

1892.		
January ...	Special Bulletin F.	Agricultural Outlook for Maryland.
February ...	Special Bulletin G.	Commercial Fertilizers.
March .....	Bulletin No. 16.	Wheat Insects.
July .....	Special Bulletin H.	Government Direction of Agriculture in Europe.
August....	Special Bulletin I.	Commercial Fertilizers.
June .....	Bulletin No. 17.	Strawberries and Seed Potatoes.
October....	Bulletin No. 18.	Sweet Potatoes.
December...	Bulletin No. 19.	Tomatoes.
	Annual Report.	Fifth Annual Report, 1892.
1893.		
March .....	Bulletin No. 20.	The Composition and Digestibility of the Different Parts of Corn Fodder.
June.....	Special Bulletin K.	Commercial Fertilizers.
June.....	Bulletin No. 21.	Soils of Maryland.
September.	Bulletin No. 22.	Steer Feeding—A Well-Balanced <i>vs.</i> a Poorly-Balanced Ration.

## MASSACHUSETTS STATE STATION.

1891.		
May.....	Circular .....	Commercial Fertilizers.
1892.		
January ...	Circular .....	Analyses of Concentrated Feeding Stuffs and Commercial Fertilizers.
March .....	Circular .....	Commercial Fertilizers.
June .....	Bulletin No. 42.	Feeding Experiments with Milch Cows.
August....	Bulletin No. 43.	Weather Observations. Winter Feeding Experiments with Lambs, Miscellaneous Analyses of Materials Used for Manurial Purposes.
		Analyses of Licensed Commercial Fertilizers.
October....	Bulletin No. 44.	Meteorological Summary for August and September. Feeding Experiments with Steers.
November.	Bulletin No. 45.	On Fodder Articles and Fodder Supplies.
	Annual Report ..	Tenth Annual Report, 1892.
1893.		
March .....	Bulletin No. 46.	Commercial Fertilizers.
May .....	Bulletin No. 47.	Meteorological Summary, January to April. Feeding Experiments with Pigs. Miscellaneous Analyses of Feeding Stuffs.
May .....	Circular .....	Commercial Fertilizers.
June .....	Bulletin No. 48.	Meteorological Summary, May and June.
August....	Bulletin No. 49.	Meteorological Summary for July.
October...	Bulletin No. 50.	Meteorological Summary, August and September.

## MASSACHUSETTS HATCH STATION.

Date.	Publication.	Title.
1890.	Annual Report.	Third Annual Report, 1890.
1891.	Annual Report.	Fourth Annual Report, 1891.
1892.		
January .....	Bulletin No. 16..	A Brief Summary of Results in Electroculture.
April .....	Bulletin No. 17..	Experiments with Fungicides and Insecticides. Notes on Grapes, Peaches, and Siberian Crab Apples.
April .....	Bulletin No. 18..	Soil Tests with Fertilizers. Experiments with Different Crops.
May .....	Bulletin No. 19..	Report on Insects.
January-December.	Meteorological bulletins.	Meteorological Bulletins Nos. 37-48.
1893.	Annual Report..	Fifth Annual Report, 1892.
January .....	Bulletin No. 20..	Report on Insects.
April .....	Bulletin No. 21..	Report on Fruits.
January-November.	Meteorological bulletins.	Meteorological Bulletins Nos. 49-59.

## MICHIGAN STATION.

1892.		
January .....	Bulletin No. 79..	Vegetable Tests.
January .....	Bulletin No. 80..	Fruits.
March .....	Bulletin No. 81..	Fruit Notes.
March .....	Bulletin No. 82..	Sugar Beets.
April .....	Bulletin No. 83..	Insecticides and Fungicides.
April .....	Bulletin No. 84..	Roots <i>vs.</i> Silage for Fattening Lambs.
April .....	Bulletin No. 85..	Potato Tests.
July .....	Bulletin No. 86..	Fertilizer Analyses.
September.	Bulletin No. 87..	Smut in Oats and Wheat—Jensen or Hot Water Treatment.
December.	Bulletin No. 88..	Fruit Report.
December..	Bulletin No. 89..	Conformation of Horse Governing Selection.
	Annual Report ..	Fifth Annual Report, 1892.
1893.		
February ..	Bulletin No. 90..	Vegetable Tests.
February ..	Bulletin No. 91..	Two Plants for Sandy Land—Spurry ( <i>Spergula arvensis</i> ) and Flat Pea ( <i>Lathyrus sylvestris</i> ).
March .....	Bulletin No. 92..	Small-Fruit Notes; Spraying.
April .....	Bulletin No. 93..	Potatoes.
April .....	Bulletin No. 94..	Birds of Michigan.
April .....	Bulletin No. 95..	Potatoes.
July .....	Bulletin No. 96..	Honey Analyses.
July .....	Bulletin No. 97..	Fertilizer Analyses.
July .....	Bulletin No. 98..	Locusts. The Horn-fly.
July .....	Bulletin No. 99..	Michigan Soils.

## MINNESOTA STATION.

1892.		
March .....	Bulletin No. 19..	Dehorning. Cream Raising; Cheese Making; The Babcock Test.
May .....	Bulletin No. 20..	Fertilizers. Improvement of Timothy; Rape in Minnesota; Peas and Oats; Field Peas.
June .....	Bulletin No. 21..	Sugar Beets. Sorghum.
August .....	Bulletin No. 22..	Comparison of Different Foods for Pigs.
September.	Bulletin No. 23..	Wheat—Milling and Baking tests; Cooperative Tests with Selected Seed Wheat. The Frit Fly—a preliminary Report upon an Insect Injurious to Wheat.
October....	Bulletin No. 24..	Ornamental and Timber Trees, Shrubs and Herbaceous Plants in Minnesota.
December ..	Bulletin No. 25..	Report on Small Fruit; Renewing Old Strawberry Beds; Shading Strawberry Beds; Seedling Fruits; Analyses of Grapevines.
	Biennial Report	Biennial Report, 1891-'92.
1893.		
January .....	Bulletin No. 26..	Digestion Experiments with Cows and Pigs.
February ..	Bulletin No. 27..	The Composition of Fodders, Wheat, and Mill Products; The Composition of Dairy Products. Sugar Beets.
March .....	Bulletin No. 28..	The Classification of Insects and their Relation to Agriculture.

## MISSISSIPPI STATION.

Date.	Publication.	Title.
1892.		
January . . .	Bulletin No. 18..	Varieties of Cotton.
January . . .	Bulletin No. 19..	The Southern Tomato Blight.
February . . .	Bulletin No. 20..	Grasses and Forage Plants.
June . . . . .	Bulletin No. 21..	Insects Injurious to the Cabbage. A New Method For Testing Milk; Feeding for Milk and Butter.
September . . .	Bulletin No. 22..	Grapes.
December . . .	Technical Bulletin No. 1.	A Chemical Study of the Cotton Plant.
	Annual Report..	Fifth Annual Report, 1892.
1893.		
February . . .	Bulletin No. 23..	Varieties of Cotton.
February . . .	Bulletin No. 24..	Fertilizers for Cotton.
June . . . . .	Bulletin No. 25..	Colic in Horses and Mules.
August . . . . .	Bulletin No. 26..	Small Fruits.

## MISSOURI STATION.

1892.		
January . . .	Bulletin No. 17..	Sugar Beets.
August . . . .	Bulletin No. 18..	Strawberries.

## NEBRASKA STATION.

1892.		
October . . . .	Bulletin No. 21..	Experiments in the Culture of the Sugar Beet in Nebraska.
	Bulletins Nos. 22 and 23.	The Corn-Fodder Disease in Cattle and Other Farm Animals, with Special Relation to Contagious Pleuro-pneumonia in American Beeves in England.
September . . .	Bulletin No. 24..	Notes on Certain Caterpillars Attacking Sugar Beets.
December . . . .	Bulletin No. 25..	Detasseling Corn.
	Annual Report..	Sixth Annual Report, 1892.
1893.		
March . . . . .	Bulletin No. 26..	Meteorological Observations for 1892.
March . . . . .	Bulletin No. 27..	Experiments in the Culture of Sugar Beets in Nebraska.
March . . . . .	Bulletin No. 28..	Southern Cattle Plague.
April . . . . .	Bulletin No. 29..	Cost of Farm Crops.
October . . . . .	Bulletin No. 30..	The Influences of Changes of Food and Temperature on the Quality and Quantity of Milk of Dairy Cows.

## NEVADA STATION.

1892.		
January . . .	Bulletin No. 15..	Dodder.
April . . . . .	Bulletin No. 16..	The Creamery Industry.
July . . . . .	Bulletin No. 17..	The Woolly Aphid of the Apple.
November . . .	Bulletin No. 18..	Cheese and its Manufacture.
December . . . .	Bulletin No. 19..	Sugar Beets.
	Annual Report..	Fifth Annual Report, 1892.
1893.		
March . . . . .	Bulletin No. 20..	Potatoes. Tobacco.
September . . .	Bulletin No. 21..	Nevada Weeds.

## NEW HAMPSHIRE STATION.

1890.	Annual Report.	Third Annual Report, 1890.
1891.	Annual Report.	Fourth Annual Report, 1891.
1892.		
September . . .	Bulletin No. 16 .	Effect of Food on composition of Butter Fat. Common Feeding Stuffs, Various Oils used in Rations.
October . . . . .	Bulletin No. 17 .	Stock-feeder's Guide, with Chart for use in barn.

## NEW JERSEY STATIONS.

Date.	Publication.	Title.
1892.		
April .....	Bulletin No. 86..	Spraying for Insect and Fungus Pests of the Orchard and Vineyard.
April .....	Special Bulletin O.	Experiments with Nitrate of Soda upon Tomatoes.
April .....	Special Bulletin P.	Experiments with Fertilizers upon White and Sweet Potatoes.
April .....	Bulletin No. 87..	Analyses of Commercial Feeds.
April .....	Special Bulletin Q.	Some Fungus Diseases of the Celery.
July .....	Bulletin No. 88..	Analyses of Home Mixtures and Incomplete Fertilizers.
October .....	Bulletin No. 89..	Analyses and Valuations of Complete Fertilizers and Ground Bone.
December .....	Bulletin No. 90..	Grasshoppers. Locusts. Crickets.
December .....	Bulletin No. 91..	Some Fungus Diseases of the Quince Fruit.
	Annual Report ..	Annual Report for 1892.
1893.		
February ..	Bulletin No. 92..	Feeding Experiments with Horses. Dried Brewers' Grains <i>vs.</i> Oats.
July .....	Bulletin No. 93..	Analyses and Study of Home-mixed Fertilizers and Fertilizer Materials.
July .....	Bulletin No. 94..	Insects Injurious to Cucurbits.
September ..	Bulletin No. 95..	The Periodical Cicada.
October .....	Bulletin No. 96..	Cornstalks and Straw as Hay Substitutes.
November .....	Bulletin No. 97..	Analyses and Valuations of Fertilizers.

## NEW MEXICO STATION.

1892.		
March .....	Bulletin No. 5..	Notes on Fruit Insects.
March .....	Bulletin No. 6..	Cereals, Forage Plants, Grasses, Clovers, Textile Plants, and Sorghums.
June .....	Bulletin No. 7..	Scale Insects in New Mexico.
November .....	Bulletin No. 8..	Experiments with Various Field Crops.
December .....	Bulletin No. 9..	Insecticides and their Appliances.
	Annual Report ..	Third Annual Report, 1891-'92.

## NEW YORK STATE STATION.

1891.		
1892.		
January ..	Annual Report (New series.)	Tenth Annual Report, 1891.
January ..	Bulletin No. 38..	Oyster Shells as Food for Laying Hens.
January ..	Bulletin No. 39..	Feeding Experiments with Poultry.
March .....	Bulletin No. 40..	Block Knot of Plum and Cherry.
April .....	Bulletin No. 41..	Experiments with Fungicides.
May .....	Bulletin No. 42..	Analyses of Commercial Fertilizers.
June .....	Bulletin No. 43..	Experiments in the Manufacture of Cheese.
August .....	Bulletin No. 44..	Strawberries.
August .....	Bulletin No. 45..	Experiments in the Manufacture of Cheese.
November .....	Bulletin No. 46..	Experiments in the Manufacture of Cheese.
November .....	Bulletin No. 47..	Experiments in the Manufacture of Cheese.
December .....	Bulletin No. 48..	Some Bean Diseases.
1893.		
January .....	Bulletin No. 49..	Treatment of Potato Scab; Use of Bordeaux Mixture for Potato Blight.
January .....	Bulletin No. 50..	Summary of Results of Experiments made in the Manufacture of Cheese during the Season of 1892.
March .....	Bulletin No. 51..	Some Celery Diseases.
March .....	Bulletin No. 52..	Analyses of Commercial Fertilizers.
April .....	Bulletin No. 53..	Feeding Experiments with Capons.

## NEW YORK CORNELL STATION.

1892.		
June .....	Bulletin No. 38..	The Cultivated Native Plums and Cherries.
July .....	Bulletin No. 39..	Creaming and Aérating Milk.
July .....	Bulletin No. 40..	Removing Tassels from Corn.
August .....	Bulletin No. 41..	The Comparative Merits of Steam and Hot Water for Greenhouse Heating.
September ..	Bulletin No. 42..	Second Report upon Electro-Horticulture.
September ..	Bulletin No. 43..	Some Troubles of Winter Tomatoes.
October .....	Bulletin No. 44..	The Pear Tree Psylla.
October .....	Bulletin No. 45..	Tomatoes.
November .....	Bulletin No. 46..	Mulberries.
December .....	Bulletin No. 47..	Feeding Lambs and Pigs.
December .....	Bulletin No. 48..	Spraying Apple Orchards.
December .....	Bulletin No. 49..	Sundry Investigations of the Year.

Date.	Publication.	Title.
1893.		
March .....	Bulletin No. 50..	The Bud Moth.
April .....	Bulletin No. 51..	Four New Types of Fruits.
May .....	Bulletin No. 52..	Cost of Milk Production; Variation in Individual Cows.
May .....	Bulletin No. 53..	Cædema of the Tomato.
June .....	Bulletin No. 54..	Dehorning.
July .....	Bulletin No. 55..	Greenhouse Notes.
August .....	Bulletin No. 56..	The Production of Manure.
September .....	Bulletin No. 57..	Raspberries and Blackberries.
October .....	Bulletin No. 58..	The Four-Lined Leaf Bug.

## NORTH CAROLINA STATION.

1892.		
January .....	Bulletin No. 82 ..	Fertilizer Analyses and Fertilizer Control.
February .....	Bulletin No. 82a ..	Fertilizer Analyses.
February .....	Bulletin No. 83 ..	Growing Celery in the South; Cultivation of Onions; Notes on Horticultural Work during 1891.
February .....	Bulletin No. 83a ..	Meteorological Summary for January.
March .....	Bulletin No. 83b ..	Fertilizer Analyses.
March .....	Bulletin No. 83c ..	Fertilizer Analyses.
March .....	Bulletin No. 83d ..	Meteorological Summary for February.
April .....	Bulletin No. 83e ..	Fertilizer Analyses.
April .....	Bulletin No. 84 ..	Some Enemies of Truck and Garden Crops.
April .....	Bulletin No. 85 ..	The Late Crop of Irish Potatoes in the South.
April .....	Bulletin No. 85a ..	Meteorological Summary for March.
May .....	Bulletin No. 86 ..	Tobacco Curing by the Leaf Cure on Wire and the Stalk Processes.
May .....	Bulletin No. 86a ..	Meteorological Summary for April.
June .....	Bulletin No. 86b ..	Fertilizer Analyses.
June .....	Bulletin No. 86c ..	Meteorological Summary for May.
July .....	Bulletin No. 86d ..	Meteorological Summary for June.
September .....	Bulletin No. 87 ..	Publications of the Station from March, 1877, to September, 1892.
August .....	Bulletin No. 87a ..	Meteorological Summary for July.
September .....	Bulletin No. 87b ..	Meteorological Summary for August.
October .....	Bulletin No. 87c ..	Meteorological Summary for September.
November .....	Bulletin No. 87d ..	Digestion Experiments with Pulled Fodder, Crimson Clover Hay, Cow-pea Vine Hay, Corn Silage, Soja Beau Silage, Raw Cotton Seed, Roasted Cotton Seed, Cotton-Seed Hulls, and Cotton-Seed Meal.
November .....	Bulletin No. 87e ..	Meteorological Summary for October; Brief Statement of Rules for Making Local Weather Forecasts.
December .....	Bulletin No. 87f ..	Meteorological Summary for November.
	Annual Report .....	Fifteenth Annual Report for 1892.
1893.		
January .....	Bulletin No. 88 ..	Fertilizer Analyses and Fertilizer Control.
January .....	Bulletin No. 88a ..	Meteorological Summary for December, 1892.
February .....	Annual Report .....	Sixth Annual Report of the Meteorological Division, 1892.
March .....	Bulletin No. 88b ..	Fertilizer Analyses and Fertilizer Control.
March .....	Bulletin No. 88c ..	Fertilizer Analyses and Fertilizer Control.
March .....	Bulletin No. 88d ..	Meteorological Summary for January.
March .....	Bulletin No. 89 ..	Cooperative Field Tests during 1891 and 1892.
March .....	Bulletin No. 89a ..	Fertilizer Analyses.
March .....	Bulletin No. 89b ..	Meteorological Summary for February.
April .....	Bulletin No. 90 ..	Practical Stock-Feeding.
April .....	Bulletin No. 90a ..	Results of Chemical Analyses of Tobacco Cured by the Leaf-cure on Wire and the Stalk Processes.
April .....	Bulletin No. 90b ..	Chemical Analyses of some Native North Carolina Grasses, Forage Plants, Grains, Seeds, and By-products.
April .....	Bulletin No. 90c ..	Fertilizer Analyses.
April .....	Bulletin No. 91 ..	Some Experiments in Wheat Culture; Thunder Storm Observations in North Carolina, June 1 to August 31, 1893.
May .....	Bulletin No. 91a ..	Meteorological Summary for April.
June .....	Bulletin No. 91b ..	Fertilizer Analyses.
June .....	Bulletin No. 91c ..	Meteorological Summary for May; the Oxford Tornado of May 3, 1893.
July .....	Bulletin No. 91d ..	Investigations upon the Phosphoric Acid in Crude Fertilizing Materials and upon Methods of Fertilizer Analysis.
July .....	Bulletin No. 91e ..	Meteorological Summary for June.
August .....	Bulletin No. 92 ..	The Culture of Orchard and Garden Fruits.
August .....	Bulletin No. 92a ..	Meteorological Summary for July.
September .....	Bulletin No. 92b ..	Meteorological Summary for August.
October .....	Bulletin No. 93a ..	Meteorological Summary for September.

## NORTH DAKOTA STATION.

Date.	Publication.	Title.
1892.		
February ..	Bulletin No. 5 ..	Sugar Beets.
June .....	Bulletin No. 6 ..	The Mustard Family.
September ..	Bulletin No. 7 ..	Rheumatism in Horses.
December ..	Bulletin No. 8 ..	Wheat-Growing and Dairying for North Dakota.
	Annual Report ..	Third Annual Report, 1892.
1893.		
March .....	Bulletin No. 9 ..	The Conditions Affecting the Value of Wheat for Seed; Prevention of Potato Scab.
May .....	Bulletin No. 10 ..	Grain and Forage Crops.
October ..	Press Bulletin No. 1.	The Russian Cactus.

## OHIO STATION.

1892.		
January ...	Bulletin Vol. V, No. 1.	Oats.
February ..	Bulletin Vol. V, No. 2.	Mangel Wurzels and Sugar Beets.
March .....	Bulletin Vol. V, No. 3.	Field Experiments with Commercial Fertilizers.
April .....	Bulletin Vol. V, No. 4.	Insects which Burrow in the Stems of Wheat.
August....	Bulletin No. 42 ..	Field Experiments with Wheat.
September.	Bulletin No. 43 ..	Greenhouses and Greenhouse Work; Tomatoes and Lettuce as Greenhouse Crops. The Food of the Robin.
September.	Bulletin No. 44 ..	A Preliminary List of the Insects of Ohio. Wild Lettuce. A Pestiferous Weed. Wheat Scab.
December ..	Bulletin No. 45 ..	Insects Affecting the Blackberry and Raspberry.
December ..	Bulletin No. 46 ..	Underground Insect Destroyers of the Wheat Plant.
December ..	Bulletin No. 47 ..	Annual Report, 1892.
1893.		
February ..	Bulletin No. 48 ..	Profit in Spraying Orchards and Vineyards.
May .....	Bulletin No. 49 ..	Field Experiments with Commercial Fertilizers.
April .....	Bulletin Vol. I, No. 3 (technical series).	Entomological and Botanical Papers.

## OKLAHOMA STATION.

1892.		
March .....	Bulletin No. 2 ..	Station work in progress.
June .....	Bulletin No. 3 ..	Insects and Insecticides.
October .....	Special Bulletin No. 1.	Texas Cattle Fever.
October....	Bulletin No. 4 ..	Tests of Varieties—Oats, Corn, Spring Wheat, Irish and Sweet Potatoes.
1893.		
January ...	Bulletin No. 5 ..	Some Soil Analyses.
May .....	Bulletin No. 6 ..	Notes of Progress: Analyses.
November ..	Press Bulletin No. 8.	Notes on Work of the Station.
December ..	Press Bulletin No. 9.	Notes on Work of the Station.

## OREGON STATION.

1892.		
January ...	Bulletin No. 15 ..	Horticulture.
February ..	Bulletin No. 16 ..	Notes on Varieties and Yield of Wheat.
February ..	Bulletin No. 17 ..	Sugar Beets.
March .....	Bulletin No. 18 ..	Insects Injurious to Young Fruit Trees—Codling Moth; Wire Worms; Flea Beetles.
May .....	Bulletin No. 19 ..	Some Oregon Weeds and How to Destroy Them.
September ..	Bulletin No. 20 ..	Experiments in Pig Feeding.
October ..	Bulletin No. 21 ..	Soils of Oregon.
1893.		
January ...	Bulletin No. 22 ..	Comparative Test of Small Fruits and Vegetables. Renovation of Old Orchards.
February ..	Bulletin No. 23 ..	Experiments in the Culture of the Sugar Beet in Oregon.
March .....	Bulletin No. 24 ..	Potatoes. Roots.
April .....	Bulletin No. 25 ..	Codling Moth and Hop Louse. Gophers and Moles.
May .....	Bulletin No. 26 ..	Drainage.

## PENNSYLVANIA STATION.

Date.	Publication.	Title.
1891.	Annual Report.	Annual Report for 1891.
1892.		
January .....	Bulletin No. 18..	Notes on New and Old Varieties of Orchard Fruits and Small Fruits.
April .....	Bulletin No. 19..	Information on Spraying Fruits.
July .....	Bulletin No. 20..	Tests of Dairy Apparatus.
October....	Bulletin No. 21..	The Koch Test for Tuberculosis.
1893.		
January .....	Bulletin No. 22..	Tests of Dairy Apparatus.
April .....	Bulletin No. 23..	Forest Fires; Experience with Evergreens in Pennsylvania.
July .....	Bulletin No. 24..	Influence of Quantity of Food upon Economy of Milk and Butter Production.

## RHODE ISLAND STATION.

1892.		
April .....	Bulletin No. 15..	Treatment of Loose Smut of Oats; Fungicides and Insecticides and their Use.
May .....	Bulletin No. 16..	The New Fertilizer Law for Rhode Island; Analyses of Commercial Fertilizers.
June.....	Annual Report.	Fifth Annual Report, 1892.
Bulletin No. 17..	Analyses of Commercial Fertilizers.	
August....	Bulletin No. 18..	Analyses of Commercial Fertilizers.
September..	Bulletin No. 19..	Analyses of Commercial Fertilizers.
December..	Bulletin No. 20..	Production and Market Value of Capons.
1893.		
January .....	Bulletin No. 21..	Seaweeds—their Agricultural Value; the Chemical Composition of Certain Species.
February .....	Bulletin No. 22..	Strawberries.
July .....	Bulletin No. 23..	Fertilizers, Commercial and Miscellaneous.
August .....	Bulletin No. 24..	Analyses of Commercial Fertilizers.

## SOUTH CAROLINA STATION.

1892.		
July .....	Bulletin No. 5..	Methods of Keeping Sweet Potatoes.
July .....	Bulletin No. 6..	Analyses of Commercial Fertilizers.
September..	Bulletin No. 7..	Experiments with Oats and Wheat.
December..	Bulletin No. 8..	Occurrence of Phosphoric Acid in Cotton-Seed Meal.
	Annual Report.	Fifth Annual Report for 1892.

## SOUTH DAKOTA STATION.

1892.		
March .....	Bulletin No. 30..	Report of Entomologist.
May .....	Bulletin No. 31..	Meteorology.
December ..	Bulletin No. 32..	Forestry.
1893.		
February .....	Bulletin No. 33..	Some Plants Injurious to Stock.
April .....	Bulletin No. 34..	The Sugar Beet.
May .....	Bulletin No. 35..	Fungus Diseases and Insect Pests.
June.....	Bulletin No. 36..	Scab; Lumpy Jaw; Anthrax.

## TENNESSEE STATION.

1890.		
1891.	Annual Report.	Third Annual Report, 1890.
1892.	Annual Report.	Fourth Annual Report, 1891.
January ...	Bulletin Vol. V, No. 1.	Fruit Trees and Experiments with Vegetables.
April.....	Bulletin Vol. V, No. 2.	Grasses of Tennessee, part I.
July .....	Bulletin Vol. V, No. 3.	A Contribution to the Study of the Economics of Milk Production.
November ..	Bulletin Vol. V, No. 4.	Experiments with Fruit Trees and Vegetables.
	Annual Report.	Fifth Annual Report, 1892.
1893.		
January ...	Bulletin Vol. VI, No. 1.	Some injurious Insects of the Apple.
April .....	Bulletin Vol. VI, No. 2.	Rational use of Feeding Stuffs; Winter Dairying in Tennessee.
July .....	Bulletin Vol. VI, No. 3.	Small Fruits; Grapes.
October....	Bulletin Vol. VI, No. 4.	Field Experiments with Tomatoes and Onions.

## TEXAS STATION.

Date.	Publication.	Title.
1892.		
March .....	Bulletin No. 20.	Grasses and Grains; Forage Plants.
June .....	Bulletin No. 21.	Effect of Cotton-Seed and Cotton-Seed Meal in Feeding Hogs.
September .....	Bulletin No. 22.	Alfalfa Root Rot.
November .....	Bulletin No. 23.	Black Rot of the Grape.
December .....	Bulletin No. 24.	The Cattle Tick.
December .....	Bulletin No. 25.	Texas Soils; a Study of Chemical Composition.
	Annual Report.	Fifth Annual Report, 1892.
1893.		
March .....	Bulletin No. 26.	Cost of Cotton Production and Profit per Acre.
June .....	Bulletin No. 27.	Steer Feeding.

## UTAH STATION.

1892.		
April .....	Bulletin No. 11.	Blanketing Horses and Cattle; Sheltered <i>vs.</i> Unsheltered Cattle; Exercise <i>vs.</i> Non Exercise for Stock.
March .....	Bulletin No. 12.	Experiments with Garden Vegetables.
May .....	Bulletin No. 13.	Feeding Hay and Grain Mixed to Horses; Feeding Cut Hay <i>vs.</i> Whole Hay to Horses.
June .....	Bulletin No. 14.	Horticulture and Entomology.
August .....	Bulletin No. 15.	Soiling Steers, or Green <i>vs.</i> Dry Food.
August .....	Bulletin No. 16.	The Digestibility of Green and Dry Timothy.
October .....	Bulletin No. 17.	Feeding Root Crops <i>vs.</i> Dry Food.
October .....	Bulletin No. 18.	Notes on Forest and Fruit Trees.
October .....	Bulletin No. 19.	Feeding Ensilage <i>vs.</i> Dry Food.
	Annual Report.	Third Annual Report, 1892.
1893.		
March .....	Bulletin No. 20.	Report of Horticultural Department.
March .....	Bulletin No. 21.	Feeding Ruminants on Grain alone. Night <i>vs.</i> Day Irrigation.
May .....	Bulletin No. 22.	Grass <i>vs.</i> Nongrass Fed Pigs; Exercise <i>vs.</i> Nonexercise of Pigs. Value of Natural Waters for Crop Growth.
July .....	Bulletin No. 23.	Shelter of Stock; Exercise <i>vs.</i> Non-exercise of Stock. Early <i>vs.</i> Late Irrigation.
August .....	Bulletin No. 24.	Irrigation.

## VERMONT STATION.

1891.	Annual Report.	Fifth Annual Report, 1891.
1892.		
January .....	Bulletin No. 27.	Tests of Dairy Apparatus.
April .....	Bulletin No. 28.	Plant Diseases.
May .....	Bulletin No. 29.	Analyses of Fertilizers.
June .....	Bulletin No. 30.	Results of the Bounty on Maple Sugar.
	Annual Report.	Sixth Annual Report, 1892.
1893.		
February .....	Bulletin No. 31.	Feeding Tests with Sugar Meal, Cream Gluten Meal, and Germ Feed.
March .....	Bulletin No. 32.	Oat Smut.
April .....	Bulletin No. 33.	Record of the Station Herd for the year 1892.
April .....	Bulletin No. 34.	Analyses of Fertilizers.
May .....	Bulletin No. 35.	Analyses of Fertilizers.

## VIRGINIA STATION.

1892.		
January .....	Bulletin No. 12.	Tests of Fertilizers on Tobacco.
February .....	Bulletin No. 13.	Antiseptic Treatment of Wounds; Infectious Abortion in Cows.
March .....	Bulletin No. 14.	Chemistry of the Tobacco Plant.
April .....	Bulletin No. 15.	Treatment of the Diseases of the Grape.
May .....	Bulletin No. 16.	Co-operative Corn Tests.
June .....	Bulletin No. 17.	Four Diseases of the Apple.
July .....	Bulletin No. 18.	Antiseptics in Relation to the Treatment of Wounds.
August .....	Bulletin No. 19.	Test of Varieties of Wheat.
September .....	Bulletin No. 20.	A new Fodder Plant— <i>Lathyrus Sylvestris</i> .
October .....	Bulletin No. 21.	Test of Fertilizers on Wheat.
November .....	Bulletin No. 22.	Bush Fruits.
December .....	Bulletin No. 23.	Test of Fertilizers on Corn.
	Annual Report.	Annual Report for 1892.
1893.		
January .....	Bulletin No. 24.	Injurious Insects and Diseases of Plants, with Remedial Measures.
February .....	Bulletin No. 25.	Dorset Horn Sheep.
March .....	Bulletin No. 26.	Tuberculosis and the Koch Test.
April .....	Bulletin No. 27.	Strawberries.
May .....	Bulletin No. 28.	Tests of Varieties of Wheat.
June .....	Bulletin No. 29.	Tests of Fertilizers on Wheat.

## WASHINGTON STATION.

Date.	Publication.	Title.
1892.		
January ...	Bulletin No. 2...	Report of Farmers' Institute held at Colton, Washington.
February ...	Bulletin No. 3...	Report of Farmers' Institute held at Garfield, Washington.
May .....	Bulletin No. 4...	Wireworms.
May .....	Bulletin No. 5...	Report of Farmers' Institute held at Pomeroy, Washington.
October ...	Annual Report	Annual Report, 1891.
	Bulletin No. 6...	Horticultural Information.

## WEST VIRGINIA STATION.

1892.		
January ...	Bulletin No. 20...	Potato Culture and Fertilization. Tests of Varieties of Tomatoes.
April .....	Bulletin No. 21...	Injurious Insects and Plant Diseases.
February .....	Bulletin No. 22...	Your Weeds and Your Neighbors, Part II.
May .....	Bulletin No. 23...	Your Weeds and Your Neighbors, Part III.
June .....	Bulletin No. 24...	Flora of West Virginia.
August .....	Bulletin No. 25...	Plat Experiments with Commercial Fertilizers on Wheat.
September.	Bulletin No. 26...	Law and Regulations Concerning Sale of Commercial Fertilizers in the State of West Virginia; Analyses.
November.	Bulletin No. 27...	Notes on Pruning.
December..	Bulletin No. 28...	Plat Experiments with Commercial Fertilizers on Corn.
1893.		
January ...	Bulletin No. 29...	Experiments on Potatoes at the Station; Experiments on Corn at the Out-stations.
	Bulletin No. 30...	Sheep.
April .....	Bulletin No. 31...	Catalogue of West Virginia Scolytides and their Enemies.
August ...	Special bulletin	Fertilizers.

## WISCONSIN STATION.

1892.		
January ...	Bulletin No. 30...	Sugar Beet Experiments.
April .....	Bulletin No. 31...	Notes on the Use of the Babcock Test and the Lactometer.
July .....	Bulletin No. 32...	Feeding Grain to Lambs.
October ...	Bulletin No. 33...	Rations for Dairy Cows.
1893.		
January ...	Bulletin No. 34...	Preventive Treatment for Apple Scab, Downy Mildew, and Brown Rot of Grape, Potato Blight, and Smut of Wheat and Oats.
April .....	Bulletin No. 35...	Insects and Diseases Injurious to Cranberries.
July .....	Bulletin No. 36...	Directions for Using the Babcock Milk Test and the Lactometer.
October ...	Bulletin No. 37...	The Russian Thistle.

## WYOMING STATION.

1892.		
February ..	Bulletin No. 5...	Best Varieties and Breeds for Wyoming.
May .....	Bulletin No. 6...	Soils of the Agricultural Experiment Farms.
July .....	Bulletin No. 7...	Insecticides.
October ...	Bulletin No. 8...	Irrigation and Duty of Water.
December ..	Bulletin No. 9...	Sugar Beets in 1892.
December ..	Bulletin No. 10...	Meteorology for 1892.
1893.		
February ..	Annual Report	Annual Report for 1892.
	Bulletin No. 11...	Crop Report for 1892.
April .....	Bulletin No. 12...	Ground Squirrels (Gophers).
July .....	Bulletin No. 13...	The Feeding and Management of Cattle.
October ...	Bulletin No. 14...	Geology of Wyoming Experimental Farm and Notes on Mineral Resources of the State.

## FEDERAL LEGISLATION AFFECTING AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

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### *ACT OF 1862 DONATING LANDS FOR AGRICULTURAL COLLEGES.*

AN ACT donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided*, That no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections, not less than one quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, That in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents, or less, per acre: *And provided further*, That not more than one million acres shall be located by such assignees in any one of the States: *And provided further*, That no such location shall be made before one year from the passage of this act.

SEC. 3. That all the expenses of management, superintendence, and taxes from date of selection of said lands, previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section fifth of this act), and the interest of which shall be inviolably

appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum, not exceeding ten per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double the minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionally diminished.

Sixth. No State while in a condition of rebellion or insurrection against the Government of the United States shall be entitled to the benefit of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its legislature within two years from the date of its approval by the President.

SEC. 6. That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws: *Provided*, Their maximum compensation shall not be thereby increased.

SEC. 8. That the governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

## ACT OF 1887 ESTABLISHING AGRICULTURAL EXPERIMENT STATIONS.

AN ACT to establish agricultural experiment stations in connection with the colleges established in the several States under the provisions of an act approved July second, eighteen hundred and sixty-two, and of the acts supplementary thereto.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges or agricultural department of colleges in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an act approved July second, eighteen hundred and sixty-two, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "agricultural experiment station:" *Provided*, That in any State or Territory in which two such colleges have been or may be so established the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate from time to time, such lines of inquiry as to him shall seem most important; and, in general, to furnish such advice and assistance as will best promote the purpose of this act. It shall be the duty of each of said stations annually, on or before the first day of February, to make to the governor of the State or Territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the said Commissioner of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports and the annual reports of said stations shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster-General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore

prescribed, the sum of fifteen thousand dollars per annum is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the Treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July, and October in each year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, eighteen hundred and eighty-seven: *Provided, however,* That out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement, or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury from the annual statement of receipts and expenditures of any of said stations that a portion of the preceding annual appropriation remain unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations so established by such States; and in case any State shall have established under the provisions of said act of July second, aforesaid, an agricultural department or experimental station, in connection with any university, college, or institution not distinctively an agricultural college or school, and such State shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the legislature of such State may apply in whole or in part the appropriation by this act made to such separate agricultural college or school, and no legislature shall by contract express or implied disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided*, That payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the Treasury to any or all the States or institutions mentioned in this act, but Congress may at any time amend, suspend, or repeal any or all the provisions of this act.

Approved, March 2, 1887.

#### *ACT OF 1890 FOR THE FURTHER ENDOWMENT OF AGRICULTURAL COLLEGES.*

AN ACT to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July second, eighteen hundred and sixty-two.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there shall be, and hereby is, annually appropriated, out of any money in the Treasury not otherwise appropriated, arising from the sales of public lands, to be paid as hereinafter provided to each State and Territory for the more complete endowment and maintenance of colleges for the benefit of agri-

culture and the mechanic arts now established, or which may be hereafter established, in accordance with an act of Congress approved July second, eighteen hundred and sixty-two, the sum of fifteen thousand dollars for the year ending June thirtieth, eighteen hundred and ninety, and an annual increase of the amount of such appropriation thereafter for ten years by an additional sum of one thousand dollars over the preceding year, and the annual amount to be paid thereafter to each State and Territory shall be twenty-five thousand dollars to be applied only to instruction in agriculture, the mechanic arts, the English language and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction: *Provided*, That no money shall be paid out under this act to any State or Territory for the support and maintenance of a college where a distinction of race or color is made in the admission of students, but the establishment and maintenance of such colleges separately for white and colored students shall be held to be a compliance with the provisions of this act if the funds received in such State or Territory be equitably divided as hereinafter set forth: *Provided*, That in any State in which there has been one college established in pursuance of the act of July second, eighteen hundred and sixty-two, and also in which an educational institution of like character has been established, or may be hereafter established, and is now aided by such State from its own revenue, for the education of colored students in agriculture and the mechanic arts, however named or styled, or whether or not it has received money heretofore under the act to which this act is an amendment, the Legislature of such State may propose and report to the Secretary of the Interior a just and equitable division of the fund to be received under this act between one college for white students and one institution for colored students established as aforesaid, which shall be divided into two parts and paid accordingly, and thereupon such institution for colored students shall be entitled to the benefits of this act and subject to its provisions, as much as it would have been if it had been included under the act of eighteen hundred and sixty-two, and the fulfillment of the foregoing provisions shall be taken as a compliance with the provision in reference to separate colleges for white and colored students.

SEC. 2. That the sums hereby appropriated to the States and Territories for the further endowment and support of colleges shall be annually paid on or before the thirty-first day of July of each year, by the Secretary of the Treasury, upon the warrant of the Secretary of the Interior, out of the Treasury of the United States, to the State or Territorial treasurer, or to such officer as shall be designated by the laws of such State or Territory to receive the same, who shall, upon the order of the trustees of the college, or the institution for colored students, immediately pay over said sums to the treasurers of the respective colleges or other institutions entitled to receive the same, and such treasurers shall be required to report to the Secretary of Agriculture and to the Secretary of the Interior, on or before the first day of September of each year, a detailed statement of the amount so received and of its disbursement. The grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purpose of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof, duly certified to the Secretary of the Treasury.

SEC. 3. That if any portion of the moneys received by the designated officer of the State or Territory for the further and more complete endowment, support, and maintenance of colleges, or of institutions for colored students, as provided in this act, shall, by any action or contingency, be diminished or lost, or be misapplied, it shall be replaced by the State or Territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such State or Territory; and no portion of said moneys shall be applied, directly or indirectly, under any

pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings. An annual report by the president of each of said colleges shall be made to the Secretary of Agriculture, as well as to the Secretary of the Interior, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any experiment stations attached to said colleges, with their costs and results, and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail free to all other colleges further endowed under this act.

SEC. 4. That on or before the first day of July in each year, after the passage of this act, the Secretary of the Interior shall ascertain and certify to the Secretary of the Treasury as to each State and Territory whether it is entitled to receive its share of the annual appropriation for colleges, or of institutions for colored students, under this act, and the amount which thereupon each is entitled, respectively, to receive. If the Secretary of the Interior shall withhold a certificate from any State or Territory of its appropriation the facts and reasons therefor shall be reported to the President, and the amount involved shall be kept separate in the Treasury until the close of the next Congress, in order that the State or Territory may, if it should so desire, appeal to Congress from the determination of the Secretary of the Interior. If the next Congress shall not direct such sum to be paid it shall be covered into the Treasury. And the Secretary of the Interior is hereby charged with the proper administration of this law.

SEC. 5. That the Secretary of the Interior shall annually report to Congress the disbursements which have been made in all the States and Territories, and also whether the appropriation of any State or Territory has been withheld, and if so, the reasons therefor.

SEC. 6. Congress may at any time amend, suspend, or repeal any or all of the provisions of this act.

Approved, August 30, 1890.

REGULATIONS OF THE POST-OFFICE DEPARTMENT FOR THE FREE  
TRANSMISSION IN THE MAILED OF THE BULLETINS AND REPORTS OF  
AGRICULTURAL EXPERIMENT STATIONS UNDER THE ACT OF CON-  
GRESS OF MARCH 2, 1887.

(1) Any claimant of the privilege must apply for authority to exercise it to the Postmaster-General, stating the date of the establishment of such station, its proper name or designation, its official organization and the names of its officers, the name of the university, college, school, or institution to which it is attached, if any, the legislation of the State or Territory providing for its establishment, and any other granting it the benefits of the provision made by Congress as aforesaid (accompanied by a copy of the act or acts), and whether any other such station in the same State or Territory is considered, or claims to be, also entitled to the privilege; and also the place of its location and the name of the post-office where the bulletins and reports will be mailed. The application must be signed by the officer in charge of the station.

(2) If such application be allowed after examination by the Department, the postmaster of the proper office will be instructed to admit such bulletins and reports to the mails in compliance with these regulations, and the officer in charge of the station will be notified thereof.

(3) Paragraph 3, section 419, Postal Laws and Regulations 1887, is hereby amended so as to read as follows:

“Only such bulletins or reports as shall have been issued after the station became entitled to the benefits of the act can be transmitted free, and such bulletins or reports may be inclosed in envelopes or wrappers, sealed or unsealed. On the exterior of every envelope, wrapper, or package must be written or printed the name of the station and place of its location, the designation of the inclosed bulletin or report and the word ‘Free’ over the signature or facsimile thereof of the officer in charge of the station, to be affixed by himself, or by some one duly deputed by him for that purpose. There may also be written or printed upon the envelope or wrapper a request that the postmaster at the office of delivery will notify the mailing station of the change of address of the addressee, or other reason for inability to deliver the same, and upon a bulk package a request to the postmaster to open and distribute the ‘franked’ matter therein, in accordance with the address thereon.

“Bulletins published by the U. S. Department of Agriculture and analogous to those of the station, and entitled to be mailed free under the penalty envelope of that Department, may also be adopted and mailed by the several stations, with their own publications, under the same regulations, and any bulletins or reports mailable free by any agricultural experiment station under these regulations may be so mailed by any other station having free mailing authority.

“If such station’s annual reports be printed by State authority, and consist in part of matter relating to the land grant college to which such station is attached, then said report may be mailed free entire by the director of the station; provided, in his judgment, the whole consists of useful information of an agricultural character.”

The Post-Office Department has recently ruled that “in sending out bulletins from an agricultural experiment station it is permissible to inclose postal cards to enable correspondents of the station to acknowledge the receipt of its publications and to request their continuous transmission.”

(4) The bulletins may be mailed to the stations, newspapers, or persons to whom they are by the foregoing act authorized to be sent, and the annual reports to any address within the United States,

## RULINGS OF THE TREASURY DEPARTMENT AS TO THE CONSTRUCTION OF THE ACT OF CONGRESS OF MARCH 2, 1887, ESTABLISHING AGRICULTURAL EXPERIMENT STATIONS.

From copies of letters addressed to the Secretary of the Treasury and others by the First Comptroller of the Treasury, relating to the construction of the act of Congress of March 2, 1887, and acts supplementary thereto, the following digest has been prepared for the use of the stations. The sections are those of the act, the dates those of the decisions by the Comptroller:

### *Section 3—January 30, 1888.*

That the annual financial statement of the stations, with vouchers, should not be sent to the Treasury Department, but that a copy simply of the report that is made to the governor is to be sent to the Secretary of the Treasury.

### *Section 3—January 31, 1888.*

First. That the Treasury Department will not require officers of experiment stations to do or perform anything not specifically required by said bill.

Second. That the Secretary of the Treasury is not required to take a bond of the officers of said stations for the money paid over under the provisions of said act.

Third. That no reports will be required from the stations directly to the Secretary of the Treasury; but the governor of the State must send to the Secretary of the Treasury a copy of the report made to him by the colleges or stations.

### *Section 5—March 4, 1887.*

“Congress only intended by the expression ‘the sum of fifteen thousand dollars is hereby appropriated to each State,’ to fix the amount that could be specially provided for by Congress in appropriations from year to year. Hence I conclude that section 5 does not make an appropriation; but that the same must be specially provided for by Congress.”

### *Sections 5 and 6—March 10, 1888.*

(1) The appropriations are intended for the fiscal year and not the calendar year.

(2) The first annual report should be made on or before the 1st day of February, 1889, and said report should include simply the operations of the preceding fiscal year, not down to and including December 31, but up to and including June 30, 1888.

(3) The balance unexpended at the end of the fiscal year, the 30th of June preceding the report, must be accounted for in the report.

(4) The one-fifth proviso for building in section 5 can be made out of the first annual appropriation, to wit, that which commences on the 1st day of July, 1887, and terminates on the 30th of June, 1888.

(5) The intention of Congress was to make quarterly payments, not in advance, but at the end of each quarter.

*Section 5, proviso—March 22, 1888.*

"I have been informed that there is no farm connected with the agricultural college in Delaware. The act provides that one-fifth of the amount appropriated can be expended in the creation, enlargement, or repair of a building or buildings for carrying on the work of the station receiving the appropriation. I am in doubt whether, with this qualification, out of the balance of the appropriation a farm could either be purchased or rented. Another question in my mind is as to the competency of the legislature which was in session at the date of the passage of the act to accept, as it assumed to do, of the provisions of the act, the ninth section of which provides that 'Payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasury.'"

*Section 6—April 24, 1888.*

At the end of the present fiscal year, to wit, June 30, any portion of the \$15,000 which shall have been received, up to and including the payment made on the 1st day of July, which is unexpended, or which may not be necessary to pay claims under contracts made for the benefit of said agricultural station, must be deducted from the next annual appropriation, as specified in said sixth section.

*Section 6—August 2, 1888.*

The fiscal year commences on the 1st day of July, corresponding with the fiscal year of the Government.

An agricultural station entitled to the benefits of said appropriations made by Congress can anticipate the payment to be made July 1, and make contracts of purchases prior to that time, if it shall be necessary to carry on the work of the station. Of course no portion of said appropriations paid in quarterly installments can be drawn from the Treasury unless needed for the purposes indicated in the act; and so much of what is so drawn as may not have been expended within the year must be accounted for as part of the appropriation for the following year.

*Section 8—January 30, 1888.*

The State of New York ought to designate whether to the college or to the station, or to both, it desires the appropriation to be applied. The eighth section of the act seems to authorize the State to apply such benefits to experimental stations it may have established as it desires.

Where there are no experimental stations connected with the colleges, the legislatures of such States must connect the agricultural experiment stations with the colleges already established under the act of July 2, 1862; there is no authority in the act authorizing the establishment of agricultural experiment stations independent of said colleges.

The act contemplates that where stations have already been established disconnected from the colleges, the legislatures of such States may take such provisions in regard thereto as they may deem proper; but it does not authorize the establishment of stations except in connection with the colleges that were at that time or might thereafter be established under the act of July 2, 1862.

*Section 8—February 14, 1888.*

Where there is an agricultural college or station which may have been established by State authority, and is maintained by the State, the eighth section of the above act would authorize the State to designate the station to which it desired the appropriation to be applied, whether to one or more, or all, and the Secretary of the Treasury should make the payment under the appropriation to whichever one the State might designate.

*Sections 1 and 8—February 15, 1888.*

(1) When an agricultural college or station has been established under the act of July 2, 1862, each college is entitled to the benefits of the provisions of said act (i. e., of March 2, 1887).

(2) In a State where an agricultural college has been established under the act of July 2, 1862, and agricultural stations have also been established, either under the act of July 2, 1862, or by State authority, before March 2, 1887, the legislature of such State shall determine which one of said institutions, or how many of them, shall receive the benefits of the act of March 2, 1887.

(3) If the legislature of any State in which an agricultural college has been established under the act of July 2, 1862, desires to establish an agricultural station which shall be entitled to the benefits of said act it must establish such station in connection with said college.

*Proviso to section 1 and section 8—December 7, 1888.*

It is within the power of the legislature of any State that has accepted the provisions of said act of March 2, 1887, to dispose of the amount appropriated by Congress for said station to either one or all of the agricultural colleges or station which may have been established in said State by virtue of either the provisions of the act of July 2, 1862, or the provisions of said eighth section of the act of March 2, 1887.

The whole responsibility rests upon the State legislature as to how the fund appropriated by Congress shall be distributed among these various institutions of the State, provided there is one or more agricultural colleges with which an agricultural station is connected, or one or more agricultural stations.

*Section 8—January 28, 1889.*

The act of the State of Georgia in authorizing the governor to receive the fund to which the State may be entitled under the act of March 2, 1887, is not in conflict with any of the provisions of said act. If a State has established an agricultural college or station under the act of July 2, 1862, or if it has established an agricultural station in connection with said college, as provided in the eighth section of March 2, 1887, the legislature can authorize some person or persons to receive the money donated by the Government and direct its application in such way and manner as it seems best to carry out the objects and purposes of said acts of Congress to either the colleges or the station, or to both.

*Section 9—February 4, 1888.*

It appears by the statement of Representative Blount that there was a session of the legislature of the State of Georgia after the passage of the act and before the first payment became due, October 1, 1887, and which did not adjourn until after that time. That being the case, under the proviso of the section, the governor of the State can not assent to that payment which was to be made October 1, 1887. The legislature having adjourned before the second payment became due, without accepting the provisions of the bill, no further payment can be made to said State until the legislature thereof shall have accepted the provisions of the bill. You will observe, the language of the proviso, "that payments of the installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature" applies, certainly, only to such installments as become due before the final adjournment. The idea seems to be to give the legislature the full time before it adjourns to accept the provisions of the bill or not; but it is plain to my mind, that only such payments as become due before the adjournment of the legislature can be accepted by the governor of the State.



## INDEX OF NAMES.

---

Adams, C. G., 56.  
Adams, C. K., 28, 58.  
Adams, F. M., 33.  
Adams, F. W., 44.  
Adams, G. R., 10.  
Adams, H. F., 24.  
Adams, L. H., 28.  
Aderhold, E. L., 42.  
Adriance, D., 26, 54.  
Adriance, J., 25.  
Ailshie, J. F., 13.  
Ainsworth, G. J., 10.  
Alden, R., 16.  
Alderson, B. C., 57.  
Aldrich, C. R., 42.  
Aldrich, J. M., 13.  
Aldrich, W. S., 57.  
Alford, T. G., 36.  
Alger, J. L., 51.  
Allen, E. A., 43.  
Allen, H. N., 44.  
Allen, W. M., 22.  
Allison, J. W., 25.  
Alvey, R. H., jr., 40.  
Alvord, H. E., 59.  
Alwood, W. B., 27, 56.  
Amadon, A. M., 36.  
Ames, C. T., 42.  
Anderson, F. P., 38, 59.  
Anderson, J., 43.  
Anderson, J. T., 9, 29.  
Anderson, J. W., 10.  
Anderson, M. L., 34.  
Anderson, S. C., 54.  
Andrews, E. B., 51.  
Andrus, J. F., 56.  
Angell, S. M., 39.  
Annis, F. J., 11.  
Anthony, L. C., 43.  
Antrim, E. I., 58.  
Appell, J. F., 34.  
Apperson, J. T., 23.  
Appleton, F. H., 17.  
Appleton, J. H., 51.  
Armes, W. D., 31.  
Armsby, H. P., 24, 50.  
Armstrong, H. C., 9.  
Armstrong, L. H., 56.  
Arnstrong, R. A., 57.  
Arnold, C. L., 48.  
Arnold, F. L., 17.  
Arthur, J. C., 14, 36.  
Arvy, L., 54.  
Asbury, S. E., 47.  
Ash, W. D., 30.  
Atherton, G. W., 24, 56.  
Atkinson, G. F., 22, 47.  
Atkinson, T. W., 39.  
Atwater, W. O., 11, 12.  
Anbert, A. B., 40.  
Ayer, A. W., 55.  
Babcock, S. M., 28, 53.  
Babcock, W., 41.  
Babson, H., 41.  
Bachelder, B., 56.  
Bacon, A. M., 56.  
Bailey, J. B., 18.  
Bailey, L. H., 22, 47.  
Bailey, Mark, 33.  
Bailey, W. W., 51.  
Bain, S. M., 25, 53.  
Baker, A. E., 36.  
Baker, C. F., 11, 32.  
Baldwin, G., 24.  
Baldwin, H. R., 21.  
Balentine, W., 16, 40.  
Banks, A. L., 54.  
Banks, W. A., 14.  
Barber, A. M., 35.  
Barber, A. G., 26.  
Barber, L. J., 33.  
Barbour, E. H., 19, 44.  
Barbour, E. L., 46.  
Barbour, V. G., 55.  
Barker, F. F., 46.  
Barker, R. J., 23, 49.  
Barnes, W. D., 21.  
Barney, S. E., 33.  
Barr, W. H., 42.  
Barrow, D. C., jr., 35.  
Barrow, D. N., 16, 39.  
Barrows, A. C., 37.  
Barrows, W. B., 41.  
Barry, W. C., 21.  
Bartlett, C., 10.  
Bartlett, J. M., 16, 60.  
Bartlett, W. P., 27.  
Barton, C. M., 53.  
Barton, J. M., 26.  
Bascomb, F., 48.  
Bashford, J. W., 27.  
Bassel, J., 27.  
Bates, H., 44.

Bates, R. C., 52.  
 Bates, W. F., 30.  
 Bathews, H. B., 53.  
 Battle, H. B., 22.  
 Baxter, W., 38.  
 Baya, H. P., 34.  
 Beach, F., 11.  
 Beach, F. E., 33.  
 Beach, S. A., 21.  
 Beal, W. J., 41.  
 Beardshear, W. M., 14, 37.  
 Beaver, L., jr., 46.  
 Beckwith, M. H., 12, 33.  
 Beem, D. E., 14.  
 Beeson, J. L., 16.  
 Belden, H. M., 44.  
 Belknap, E. M., 49.  
 Bell, M., 32.  
 Bemiss, J. B., 43.  
 Bender, F. B., 41.  
 Bending, E. J., 34.  
 Bennet, A. A., 37.  
 Bennett, E. J., 58.  
 Bennett, R. L., 10.  
 Bennett, S. E., 15.  
 Benson, M. A., 26.  
 Bentley, W. B., 30.  
 Benton, E. S., 39.  
 Benton, H., 9.  
 Berchtold, F., 49.  
 Bessey, C. E., 19, 44.  
 Betts, E., 46.  
 Beyer, S. W., 37.  
 Beyer, T. R., 50.  
 Bielby, C. F. A., 12.  
 Bigelow, F. M., 11.  
 Bigelow, W. D., 60.  
 Bioletti, F. T., 10.  
 Bird, M., 16.  
 Bishop, W. H., 12, 33.  
 Bissell, G. W., 37.  
 Bitting, A. W., 14, 36.  
 Bittle, T. C., 54.  
 Bivins, R. L., 9, 29.  
 Black, B. C., 10.  
 Black, J. M., 53.  
 Black, R., 21.  
 Blackburn, Mrs. L. B., 33.  
 Blake, C. O., 23.  
 Blake, E. W., 51.  
 Blandford, H. S., 27.  
 Blanton, R. L., 38.  
 Blasdale, W. C., 31.  
 Bledsoe, P., 54.  
 Bleile, A. N., 48.  
 Bloomfield, L. M., 48.  
 Bloss, J. M., 23, 49.  
 Blouin, R. E., 16.  
 Blount, A. E., 21, 46.  
 Boardman, A. I., 56.  
 Boardman, C. D., 14.  
 Boggs, E. M., 9, 30.  
 Boggs, J., 10.  
 Boggs, W. E., 13.  
 Bohannan, R. D., 48.  
 Boise, R. P., 23.  
 Bolley, H. L., 22, 47.  
 Bolton, E. B., 38.  
 Bondurant, A. J., 9, 29.  
 Bonebright, J. E., 13.  
 Bontè, J. H. C., 10.  
 Booker, W. M., 9.  
 Bookstaver, H. W., 21.  
 Boss, A., 18.  
 Boss, W., 42.  
 Bosworth, A., 51.  
 Bottenfield, L. S., 47.  
 Bowen, A. F., 22.  
 Bowen, B. L., 48.  
 Bowen, R. E., 24.  
 Bowen, W. P., 44.  
 Bowker, W. H., 17.  
 Bowman, A., 35.  
 Bowser, E. A., 46.  
 Boyd, E., 37.  
 Boyd, J. E., 48.  
 Brace, D. B., 19, 44.  
 Brackett, R. N., 25, 52.  
 Bradford, J. N., 48.  
 Bradley, C. B., 31.  
 Bradley, J. E., 24.  
 Bradley, R. C., 41.  
 Brady, F. W., 36.  
 Brady, W., 13, 14.  
 Bray, R. T., 54.  
 Breazeale, W. E., 46.  
 Breese, C. M., 38.  
 Brereton, J. J., 46.  
 Brewer, F. W., 26, 55.  
 Brewer, W. H., 11, 32.  
 Brewster, F. A., 42.  
 Brewster, H. W., 42.  
 Briggs, B. F., 16.  
 Briggs, F. C., 56.  
 Briggs, F. P., 16, 40.  
 Brigham, J. H., 23.  
 Brill, T., jr., 22.  
 Brink, C. M., 51.  
 Brinkley, E. H., 17.  
 Bristow, W. W., 49.  
 Broadhead, G. C., 43.  
 Broderick, W. H., 26.  
 Brogues, M. H., 54.  
 Bronson, W. C., 51.  
 Brooke, St. G. T., 57.  
 Brooks, W. P., 17, 41.  
 Broughton, N. B., 22.  
 Broun, W. L., 9, 29.  
 Brown, A. B., 38.  
 Brown, C. N., 48.  
 Brown, F., 16.  
 Brown, J. F., 27.  
 Brown, J. N., 45.  
 Brown, J. T., 26.  
 Brown, N. G., 35.  
 Brown, O., 56.  
 Brown, R., 45.  
 Brown, S. B., 57.  
 Brown, W. W., 27.  
 Browne, R. S., 13.  
 Brownell, E. H., 51.  
 Browning, W. D., 42.

Bruce, C. M., 9.  
 Brunier, L., 19, 44.  
 Brush, G. J., 32.  
 Bryan, E. A., 27, 57.  
 Buckham, M. H., 26, 55.  
 Buckhout, W. A., 24, 50.  
 Budd, J. L., 14, 37.  
 Bnell, D. C., 15.  
 Buffum, B. C., 28, 58.  
 Bulkley, W. L., 52.  
 Bull, M., 24.  
 Bull, T. J., 21.  
 Bullock, E. C., 58.  
 Bullock, R. S., 15.  
 Bumpus, H. C., 51.  
 Bumstead, H. A., 33.  
 Burgess, F. G., 31.  
 Burnett, P. B., 44.  
 Burnette, F. H., 16, 39.  
 Burnham, E. C., 51.  
 Burrill, T. J., 13, 14, 35.  
 Burtis, F. C., 15.  
 Burton, M. R., 29.  
 Burton, W. W., 28.  
 Burwell, L. E., 21.  
 Burwell, R. T., 16.  
 Butler, T., 18, 42.  
 Butterfield, I. H., 18, 41.  
 Butts, E. P., 50.  
 Butz, G. C., 24, 50.  
 Cady, W. B., 21.  
 Caine, J. T., jr., 55.  
 Calder, E. E., 51.  
 Caldwell, F. C., 48.  
 Caldwell, G. C., 22, 47.  
 Caldwell, H. W., 44.  
 Caldwell, W. H., 24, 50.  
 Callahan, Mrs. Ida, 49.  
 Cameron, A. G., 32.  
 Cameron, J. R., 18.  
 Campbell, G. F., 33.  
 Campbell, Mrs. J. E., 53.  
 Campbell, J. E., 58.  
 Campbell, J. P., 35.  
 Campbell, T. P., 56.  
 Campbell, W. H., 23.  
 Candy, A. L., 44.  
 Canfield, J. H., 19, 44, 59.  
 Canty, J. M., jr., 58.  
 Capehart, W. R., 22.  
 Card, F. W., 19, 44.  
 Carleton, M. A., 15.  
 Carnall, E. H., 30.  
 Carpenter, F. B., 22.  
 Carpenter, L. G., 11, 32.  
 Carpenter, M. A., 17.  
 Carroll, Mrs. S. C., 47.  
 Carson, J. M., 26, 54.  
 Carson, J. W., 26, 54.  
 Carson, W. W., 53.  
 Carter, J. G., 25.  
 Carter, J. H., 54.  
 Carter, H. L., 26.  
 Cary, C. A., 9, 29.  
 Cash, W. F., 13.  
 Candell, A. N., 23.  
 Cansey, W. F., 12.  
 Cavanagh, G. W., 22.  
 Cavitt, W. R., 25.  
 Caywood, V. H., 30.  
 Chalmers, J., 48.  
 Chamberlain, H., 17.  
 Chamberlain, P. M., 41.  
 Chambers, M. L., 37.  
 Chambliss, C. E., 25.  
 Chandler, R. E., 44.  
 Chapin, C. V., 51.  
 Chappell, W. L., 42.  
 Charbonnier, L. H., 35.  
 Chatfield, J. L., 11.  
 Chaves, D., 21.  
 Chesebro, C. H., 30.  
 Chester, A. H., 46.  
 Chester, E. E., 13.  
 Chester, F. D., 12, 33.  
 Chichester, F., 56.  
 Chickering, J. K., 55.  
 Chilcott, E. C., 25, 53.  
 Chipley, W. D., 12.  
 Chittenden, H. B., 55.  
 Chittenden, R. H., 32.  
 Church, J. E., jr., 45.  
 Churchill, G. W., 21.  
 Chynoweth, H. W., 27.  
 Clapp, H. K., 20, 45.  
 Clark, B. F., 51.  
 Clark, E., 56.  
 Clark, E. F., 49.  
 Clark, E. G., 16.  
 Clark, G., 18.  
 Clark, H. A., 43.  
 Clark, H. R., 49.  
 Clark, J. E., 32.  
 Clark, M. G., 56.  
 Clark, O. E., 27.  
 Clark, T. A., 35.  
 Clark, W. G., 58.  
 Clark, W. W., 37.  
 Clarkson, J. S., 19.  
 Clay, C. D., 28.  
 Clayton, J., 26, 54.  
 Cleaveland, L., 56.  
 Clendenin, W. W., 16, 39.  
 Cleveland, B., 56.  
 Clinkseales, J. G., 52.  
 Clinton, G. P., 14, 35.  
 Clinton, L. A., 25, 52.  
 Cloyd, D. M., 26.  
 Clute, O., 12, 34.  
 Coates, C. E., 39.  
 Coates, J., 35.  
 Coates, J. P., 16.  
 Cockrell, T. D. A., 21, 43.  
 Coe, J. W., 33.  
 Coe, W. R., 33.  
 Coffield, J. B., 22.  
 Coffin, S. M., 13.  
 Coggeshall, C. H., 24.  
 Colburn, L. C., 58.  
 Colby, D. W., 40.  
 Colby, G. E., 10, 31.

Colcock, D. D., 15.  
 Colcord, R. K., 20.  
 Cole, G. A., jr., 30.  
 Cole, Mrs. G. A., 30.  
 Coler, G. P., 48.  
 Collier, P. 21.  
 Collingwood, C. B., 9, 30.  
 Collins, C. H., 25.  
 Colvin, S. S., 51.  
 Combs, F. J., 48.  
 Comfort, J., 25.  
 Comstock, J. H., 22, 47.  
 Comstock, T. B., 9, 30.  
 Condell, C., 56.  
 Conklin, C., 44.  
 Conley, J. D., 28, 58.  
 Connell, J. H., 26, 54.  
 Conner, C. R., 27.  
 Connaway, J. W., 43.  
 Conwell, C. S., 33.  
 Conwell, S. L., 34.  
 Cook, A. D., 21.  
 Cooke, W. W., 11, 32.  
 Cooley, F. S., 41.  
 Cooper, J., 46.  
 Cooper, W. 19.  
 Coote, G., 23, 49.  
 Corbett, L. C., 25, 53.  
 Cormack, D. A., 25, 53.  
 Corput, F., 13.  
 Corse, F. M., 55.  
 Corwin, R. N., 32.  
 Coryell, R. J., 18.  
 Coulter, S., 36.  
 Covell, G. A., 49.  
 Cowgill, T. W., 45.  
 Craig, J. A., 28, 58.  
 Craig, M., 23, 49.  
 Craig, O. J., 36.  
 Craighead, E. B., 25, 52.  
 Crain, L. D., 32.  
 Crampton, C. A., 60.  
 Crandall, C. S., 11, 32.  
 Crane, A. A., 13.  
 Crane, A. B., 53.  
 Cravens, J. L., 30.  
 Crawford, J. D., 35.  
 Creditt, W. A., 39.  
 Creelman, G. C., 42.  
 Crenshaw, B. H., 29.  
 Crocker, C. F., 10.  
 Crocker, C. S., 17.  
 Crook, A. J., 13.  
 Crosby, D. J., 41.  
 Crowell, A. C., 51.  
 Cunningham, W. N., 56.  
 Cuppage, A., 34.  
 Curtis, H. E., 15.  
 Curtis, R. S., 11.  
 Curtiss, C. F., 14, 37.  
 Cunshman, S., 24, 51.  
 Dabney, C. W., jr., 25, 53.  
 Dale, H. B., 27.  
 Dales, J. S., 19.  
 Daly, B., 23.  
 Daniels, A. L., 55.  
 Daugette, C. W., 29.  
 Daule, E. A., 54.  
 Davenport, T. W., 23.  
 Davidson, J. N., 14.  
 Davidson, R. J., 27, 56.  
 Davis, C. A., 33.  
 Davis, C. K., 18.  
 Davis, E. B., 45.  
 Davis, E. W., 44.  
 Davis, G. C., 18, 41.  
 Davis, J. E., 56.  
 Davis, J. M., 38.  
 Davis, M., 30.  
 Davis, M. A., 39.  
 Davis, N. F., 51.  
 Davis, W. L., 15.  
 Davisson, A. E., 46.  
 Dealey, J. Q., 51.  
 Decker, J. W., 28, 58.  
 DeFoe, L. M., 43.  
 Delabarre, E. B., 51.  
 Demarest, S. R., jr., 20.  
 Demond, J. H., 17.  
 Denise, D. D., 20.  
 Dennis, L. M., 47.  
 Denny, J. V., 48.  
 DePass, W. G., 12.  
 Derby, S. C., 48.  
 DeRoode, R. J. J., 27.  
 Deschenes, J., 22.  
 DeSha, B. C., 34.  
 Detmers, H. J., 48.  
 Dickerson, W. M., 41.  
 Dilley, B. M., 19.  
 Dinwiddie, R. R., 10.  
 Doane, W. E., 58.  
 Dockery, T. C., 18.  
 Dodge, D. K., 35.  
 Donahue, M. F., 26.  
 Donaldson, M. L., 24.  
 Donaldson, T. Q., jr., 52.  
 Doolittle, M., 37.  
 Doty, G. W., 20.  
 Dow, F. T., 57.  
 Dowdy, R. W., 30.  
 Downey, S. W., 23.  
 Downing, S. R., 24.  
 Drake, W. E., 51.  
 Draper, J., 17.  
 Dresser, J. M., 14.  
 Drew, E. R., 31.  
 Drew, J. M., 42.  
 Drinkhard, A. W., 56.  
 Droke, G. W., 30.  
 Dryden, J., 26, 55.  
 DuBois, A. J., 32.  
 DuBois, J. E., 11.  
 Duff, A. W., 36.  
 Dunbar, C. M., 14.  
 Duncan, E. E., 39.  
 Dunkel, H. E., 50.  
 Dunn, J. B., 47.  
 Dunn, T. A., 28.  
 Dunstan, A. St. C., 29.  
 Dunton, L. M., 52.

Dunton, Mrs. L. M., 52.	Fling, F. M., 44.
DuPre, J. F. C., 25.	Flint, E. R., 41.
Durkee, O. P., 51.	Flint, W., 40.
Duryee, A. W., 20.	Flower, R. P., 21.
Duryee, W. R., 16.	Folsom, N. E., 53.
Dutcher, J. B., 22.	Foote, H. S., 10.
Dwight, T., 32.	Forbes, S. A., 13, 14, 35.
Dye, C. A., 48.	Ford, C., 37.
Earle, F. S., 18.	Ford, R., 9.
Earle, J. J., 34.	Forrer, J., 10.
Easterbrook, H. D., 19.	Forsyth, A. P., 15.
Eaton, D. C., 32.	Forsyth, J., 20.
Eddy, Mrs. S. A., 55.	Fortier, S., 26, 55.
Edgerton, E. A., 41.	Foss, F. E., 50.
Edgren, A. H., 44.	Fossler, L., 44.
Edwards, G. C., 31.	Foster, I. L., 51.
Edwards, H., 41.	Foster, L., 19, 44.
Ege, R., 20.	Foster, M. J., 15.
Eggers, E. A., 48.	Fowler, J. M., 14.
Eldon, W. S., 48.	Fox, A. F., 18.
Ellis, A., 11, 32.	Fox, C. P., 13.
Ellis, S. H., 23.	Francis, M., 26, 54.
Ellsworth, E. A., 14.	Franklin, S. M., 9.
Emery, F. E., 22, 47.	Franklin, W. S., 37.
Emery, F. P., 50.	Fratt, N. D., 27.
Emery, Mrs. M. W., 45.	Frear, W., 24, 50, 59, 60.
Emery, S. M., 19, 44.	Frederick, H., 20.
Emigh, A. L., 11.	Frelinghuysen, F., 21.
Emmett, J., 23.	Freeman, D., 56.
Engle, T. P., 40.	Freeman, M. P., 9.
Erwin, R. W., 26.	French, A. R., 24.
Estabrooke, H. M., 40.	French, H. T., 23, 49.
Evans, Mrs. P. A., 47.	French, W. A., 27.
Everett, W. G., 51.	Friend, T. C., 58.
Eves, H. P., 33.	Frier, J. H., 33.
Ewing, A. A., 23.	Fries, H. E., 22.
Failyer, G. H., 15, 38.	Fries, J. A., 24.
Fairchild, G. T., 15, 38, 59.	Frissell, H. B., 56.
Falkenbach, F. J., 23.	Frith, W. O., 56.
Farewell, S. T., 28.	Frost, A. S., 53.
Farnam, H. W., 32.	Frothingham, L., 32.
Farnsworth, T. J., 27.	Frye, R. T., 13.
Farrington, E. H., 13, 14, 60.	Fuller, F. D., 20.
Fassett, G. S., 26.	Fulmer, E., 27, 57.
Ferguson, H. C., 43.	Fulton, J. A., 12.
Ferguson, J., 57.	Fulton, J. F., 23, 49.
Ferguson, R. J., 9.	Furman, C. M., 52.
Fernald, C. H., 17, 41.	Furnas, R. W., 44.
Fernald, H. C., 40.	Gallaway, W. H., 42.
Fernald, H. T., 50.	Gallegos, J., 11.
Fernald, M. C., 16.	Gardner, F. D., 14, 35.
Ferris, C., 53.	Gardner, H. B., 51.
Field, G. W., 51.	Gardner, J., 27, 56.
Fields, J. D., 25.	Garig, W., 15.
Fields, J. W., 24.	Garfield, C. W., 17.
Finley, C. A., 12.	Garman, H., 15, 38.
Finley, G. J., 18.	Garside, J. A., 30.
Fish, H. L., 20.	Garver, M. M., 50.
Fitts, E. B., 12.	Gault, F. B., 13, 35.
Fitzgerald, T. S., 26.	Gaut, J. W., 25.
Flagg, C. O., 24, 51.	Gayley, C. M., 31.
Flather, J. J., 36.	George, J. Z., 18.
Fleming, A. M., 26.	Georgeson, C. C., 15, 38.
Fletcher, J. C., 23.	Gerrish, C., 36.
	Gibbs, L. R., 46.

Gibbs, T. V., 34.  
 Gibbs, W. D., 35.  
 Gibson, H., 15.  
 Giese, J., 25.  
 Giesecke, F. E., 54.  
 Gilchrist, J. G., 9.  
 Gill, B., 50.  
 Gillespie, A. C., 54.  
 Gillette, C. P., 11, 32.  
 Gilman, C. L., 31.  
 Gilmer, J. H., 22.  
 Gird, R., 11.  
 Gladden, H. P., 18.  
 Gleason, C. A., 17.  
 Glidden, A. C., 17.  
 Glover, M., 52.  
 Goessman, C. A., 17, 41.  
 Goessman, L. E., 17.  
 Goff, E. S., 28, 58, 59.  
 Gorham, F. P., 51.  
 Gold, T. S., 11, 12.  
 Golden, K. E., 36.  
 Golden, M. J., 36.  
 Goldsborough, W. E., 30.  
 Goodale, W. H., 39.  
 Goodall, W. H., 32.  
 Goodell, H. H., 17, 41, 59.  
 Goodenough, G. A., 41.  
 Goodrich, C. L., 56.  
 Gorton, L. G., 17, 18, 41.  
 Goss, A., 21, 46.  
 Goss, W. F. M., 36.  
 Gould, F. H., 10.  
 Gould, H. P., 16.  
 Gowell, G. M., 40.  
 Graham, E. J., 42.  
 Graham, I. D., 15, 38.  
 Grange, E. A. A., 18, 41.  
 Granville, W. A., 33.  
 Gray, J. C., 24.  
 Gray, O. C., 30.  
 Green, A. L., 36.  
 Green, C. J., 24.  
 Green, E. C., 23.  
 Green, L. E., 39.  
 Green, S. B., 18, 42.  
 Green, W. F., 23.  
 Green, W. H., 20.  
 Green, W. J., 33.  
 Greene, E. L., 10, 31.  
 Greene, J. F., 51.  
 Greenhalge, E. B., 17.  
 Gregory, J. M., 35.  
 Griffin, H. H., 21.  
 Grishart, J. H., 40.  
 Groesbeck, W. D., 41.  
 Grover, N. C., 40.  
 Guild, F. T., 51.  
 Gulley, A. G., 26, 55.  
 Gulley, F. A., 9, 30.  
 Gunson, T., 41.  
 Gwinn, H., 42.  
 Gwynn, W., 12.  
 Hadley, E. A., 10.  
 Hadley, H., 21, 46, 59.  
 Haecker, A. L., 42.

Haecker, J. H., 42.  
 Haecker, T. L., 18, 42.  
 Hagan, A. B., 12.  
 Hageman, E. H., 53.  
 Hagerty, C. T., 46.  
 Halbrook, J. M., 49.  
 Hale, F. G., 25.  
 Hale, J. H., 12.  
 Haley, E. J., 24.  
 Hall, H. J., 30.  
 Hallidie, A. S., 10.  
 Halsted, B. D., 21, 46.  
 Hamlin, G. H., 40.  
 Hamlin, J. T., 26.  
 Hammond, M. R., 56.  
 Hammond, S. H., 21.  
 Hampsen, W. B., 44.  
 Hansen, N. E., 14, 37.  
 Hanson, G., 11.  
 Hardin, J. H., 24.  
 Hardin, M. B., 25, 52.  
 Hare, A. J., 57.  
 Hare, C. L., 9, 29.  
 Hare, R. F., 21, 46.  
 Harkins, L. A., 53.  
 Harkness, A., 51.  
 Harkness, A. G., 51.  
 Harman, J. A., 56.  
 Harper, J., 38.  
 Harrington, H. H., 26, 54.  
 Harris, A. W., 16, 40, 59.  
 Harris, F. E., 12.  
 Harris, R. L., 43.  
 Harrison, H. E., 13.  
 Harrison, H. S., 40.  
 Harrison, T. P., 52.  
 Harrold, E., 38.  
 Hart, C. E., 46.  
 Hart, J. N., 40.  
 Hart, J. W., 25, 52.  
 Harter, G. A., 33.  
 Hartigan, J. W., 57.  
 Hartsell, J. C., Jr., 52.  
 Hartshorn, C. L., 17.  
 Hartwell, B. L., 24, 51.  
 Harvey, F. L., 16, 40.  
 Harvey, J. I., 27, 57.  
 Haskell, M. W., 31.  
 Haskins, H. D., 17.  
 Hastings, C. S., 32.  
 Hatch, J. M., 41.  
 Hathaway, C. A., 39.  
 Hathaway, J. S., 39.  
 Haet, W. K., 36.  
 Hattabangh, I. C., 13.  
 Hayden, W. G., 22, 47.  
 Hayes, M., 12.  
 Hayne, A. P., 10, 31.  
 Haynes, J. W., 20.  
 Hays, W. M., 18, 42.  
 Hawkins, R. D., 36.  
 Hawkins, T. S., 15.  
 Headden, W. P., 11, 32.  
 Heatwole, J. P., 13.  
 Hebard, G. R., 23.  
 Heberly, J. A., 9.

Hedrick, W. O., 41.	Hause, W. L., 33.
Hellman, I. W., 10.	Howard, A., 57.
Helme, M. P., 51.	Howard, A. J., 43.
Helveti, F. M., 38.	Howard, B. B., 51.
Henderson, J. T., 10.	Howard, C. S. H., 31.
Henderson, L. F., 13.	Howe, A., 56.
Henderson, R., 47.	Howe, D. D., 26.
Henneman, J. B., 53.	Howe, E. D., 17.
Henry, W. A., 28, 58, 59.	Howe, H. M., 18.
Herbert, J. C., 42.	Howe, M. A., 31.
Herget, A. M., 42.	Howe, W. T. H., 33.
Herr, J. A., 24.	Howell, J. F., 30.
Herrman, von, C. F., 22.	Howes, G. E., 56.
Herron, E., 56.	Hoyt, E., 11.
Herron, L. E., 56.	Hubbard, J. M., 12.
Hersey, M. L., 40.	Huff, L. J., 55.
Herty, C. H., 35.	Huntington, M. J., 11, 32.
Hengstler, L. T., 31.	Huggins, J., 9.
Hewit, E. F., 25, 53.	Humphrey, H. D., 32.
Heywood, A. R., 26.	Hunnicutt, J. B., 35.
Heywood, J. S., 52.	Hunt, T. F., 48.
Hiatte, W. G., 22, 47.	Huntington, S. D., 31.
Hickman, J. F., 23.	Huntley, F. A., 11.
Hicks, F. C., 43.	Hurt, W. W., 56.
Higgins, J. C., 12.	Hussey, G. B., 44.
Hilgland, L. D., 34.	Huston, H. A., 14, 36, 60.
Hilgard, E. W., 10, 31, 60.	Hutchinson, E. W., 54.
Hill, D. H., jr., 47.	Hutchinson, T. P., 16.
Hill, H. A., 39.	Hutchinson, W. L., 18, 42.
Hill, J. H., 58.	Hutson, C. W., 54.
Hillman, F. H., 20, 45.	Hutto, W. W., 49.
Hills, E. R., 35.	Hyde, E., 56.
Hills, J. L., 26, 55.	Hyde, E. H., 11, 12.
Hine, J. S., 23.	Hyde, J. E., 26.
Hinebaugh, T. D., 22, 47.	Ihseing, M. C., 50.
Hitchcock, A. S., 15, 38.	Ingersoll, C. A., 33.
Hitchcock, E. A., 48.	Ingersoll, C. L., 19, 44.
Hitchcock, H. E., 44.	Ingraham, E. S., 27.
Hoak, B. M., 36.	Irby, B., 47.
Hodgman, T. M., 44.	Irby, G. B., 10.
Hofer, T. R., 20.	Ives, C. E., 39.
Hoff, H. H., 13.	Ives, G. R., 14, 36.
Hoffman, B. F., 39.	Ives, M. V. B., 21.
Hoffman, J. D., 36.	Jackson, I. J., 39.
Holdsworth, W. S., 41.	Jackson, J. H., 39.
Holladay, A. Q., 47.	Jackson, J. P., 50.
Holland, E. B., 17.	Jackson, R. D., 45.
Hollingsworth, J. E., 25.	Jackson, W. H., 25.
Hollis, A. P., 43.	Jaffa, M. E., 10, 31.
Holmes, E. H., 54.	James, W. D., 25.
Holmes, S. J., 31.	Jameson, J. B., 27.
Holswade, J. M., 27.	Jameson, J. F., 51.
Holt, J. H., 20.	Jamieson, H., 39.
Holter, G. L., 23, 49.	Jarnagin, M. P., 25.
Homer, R. H., 23.	Jenkins, E. H., 11.
Hood, O. P., 38.	Jenks, J. P. W., 51.
Hook, J. N., 25.	Jenter, C. G., 21.
Hopkins, A. D., 27.	Jepson, W. L., 31.
Hopkius, C. G., 25, 53.	Jesse, R. H., 19, 43.
Hopkins, T. C., 50.	Jesup, H. G., 45.
Horner, D. W., 20.	Johns, J. D., 54.
Horner, J. B., 49.	Johnson, A. A., 28, 53.
Hoskins, G. W., 50.	Johnson, A. B., 51.
Hossinger, J., 12.	Johnson, C. H., 17.
Hough, C., 57.	
Houghton, J. F., 10.	

Johnson, D. D., 27, 36.  
 Johnson, G. B., 43.  
 Johnson, J. R., 38.  
 Johnson, M., 53.  
 Johnson, S., 14.  
 Johnson, S. W., 11, 12, 32, 50.  
 Johnston, E., 56.  
 Johnston, J., 27.  
 Johnston, J. L., 57.  
 Johnston, M. R., 28.  
 Johnston, W. R., 11.  
 Johnstone, A., 24.  
 Jones, A. W., 28.  
 Jones, C., 21.  
 Jones, C. H., 17.  
 Jones, C. L., 20.  
 Jones, E. A., 21.  
 Jones, F. F., 34.  
 Jones, H. M., 38.  
 Jones, J. S., 14.  
 Jones, L. R., 26, 55.  
 Jones, O. B., 48.  
 Jones, S. A., 20, 45.  
 Jones, S. C., 16.  
 Jones, W., 36.  
 Jordan, A. T., 15.  
 Jordan, T. W., 53.  
 Jordan, W. H., 16.  
 Jouett, J. R., 51.  
  
 Kahn, H., 21.  
 Kaley, C. W., 19.  
 Karns, T. C., 53.  
 Kastle, J. H., 38.  
 Kauffman, G. B., 48.  
 Kaufman, E. E., 47.  
 Keady, W. P., 23.  
 Kedzie, F. S., 41.  
 Kedzie, Mrs. N. S., 38.  
 Kedzie, R. C., 18, 41.  
 Keeler, J. B., 26.  
 Keeue, E. S., 47.  
 Keffer, C. A., 19, 43.  
 Keith, C., 27.  
 Kellerman, W. A., 48.  
 Kelley, H., 15.  
 Kellicott, D. S., 48.  
 Kellner, E., 10.  
 Kellogg, A. L., 11.  
 Kellogg, M., 10, 31.  
 Kemmler, E. A., 48.  
 Kendall, A., 28.  
 Kennedy, A. B., 39.  
 Kennedy, T. L., 29.  
 Kent, D. A., 14, 37.  
 Kenyon, C., 55.  
 Kerr, C. V., 30.  
 Kester, M. J., 27.  
 Keys, H., 20.  
 Kidd, R. M., 56.  
 Kilgore, B. W., 22, 60.  
 Kimbro, H. F., 54.  
 Kimbrough, J. M., 13.  
 King, C. I., 58.  
 King, F. H., 28, 58.  
 King, M. S., 43.  
  
 King, R. C., 18-42.  
 Kingsbury, A., 45.  
 Kinkaid, T. W., 50.  
 Kinkead, W. B., 15.  
 Kinkel, G., jr., 19.  
 Kinley, D., 35.  
 Kinney, L. F., 24, 51.  
 Kirkland, A. H., 17.  
 Kiruckenberg, H. J., 11.  
 Klimpe, P., 33.  
 Knapp, H., 14.  
 Knight, G. W., 48.  
 Knight, J. L. H., 19.  
 Knight, W. A., 48.  
 Knight, W. C., 28.  
 Knisely, A. L., 21.  
 Knott, J. E., 58.  
 Knowlton, D. H., 16.  
 Koch, J. J., 30.  
 Koch, P., 19.  
 Kolb, J. E., 36.  
 Koons, B. F., 12, 33.  
 Kower, H., 31.  
 Kyle, H. G., 25.  
  
 Ladd, E. F., 22, 47.  
 Lake, E. R., 27, 57.  
 Lamson, H. H., 20, 45.  
 Landon, Mrs. L. E., 18, 41.  
 Lane, F. A., 51.  
 Lane, H. D., 9.  
 Lane, J. H., 29.  
 Lang, A. F., 31.  
 Lang, H., 11.  
 Langdon, C., 51.  
 Langford, W. H., 10.  
 Lantz, D. E., 38.  
 Larson, L. K., 25.  
 Latta, W. C., 14, 36.  
 Law, J., 22, 47.  
 Lawrence, J. W., 32.  
 Lawson, A. C., 31.  
 Lazenby, W. R., 48.  
 LeConte, J., 31.  
 Lee, J. G., 16.  
 Lee, S. D., 18, 42, 59.  
 Lehman, A., 16.  
 Leighton, F. A., 37.  
 Lenher, V., 31.  
 Lennox, T., 37.  
 Lester, F. E., 21.  
 Letcher, J. D., 49.  
 Leuschner, A. O., 31.  
 Leverett, C. H., 30.  
 Lewers, R., 45.  
 Lewis, A., 55.  
 Lewis, C. A., 54.  
 Lewis, E. A., 41.  
 Lewis, J. F., 28.  
 Lieckie, C. W., 54.  
 Liggett, W. M., 18.  
 Ligon, R. F., 9.  
 Lincoln, J. R., 37.  
 Lindsey, J. B., 17.  
 Linfield, F. B., 55.  
 Lipscomb, D., 42.

Lipscomb, M. L., 43.  
 Little, B. B., 38.  
 Little, E. A., 55.  
 Livingston, H. T., 53.  
 Lloyd, E. R., 18.  
 Lloyd, R., 44.  
 Lockwood, E. H., 32.  
 Lodeman, E. G., 22, 47.  
 Loehler, W., 46.  
 Logan, J. L., 38.  
 Logan, W., 43.  
 Logie, T., 46.  
 Loomis, H., 55.  
 Lord, H. C., 48.  
 Lord, N. W., 48.  
 Loncks, J. D., 28.  
 Loughridge, R. H., 10, 31.  
 Lounsbury, C. P., 17.  
 Lounsbury, R. A., 20.  
 Lounsbury, T. R., 32.  
 Love, J. L., 43.  
 Lowe, F. F., 56.  
 Lowe, W. I., 32.  
 Lowell, A. G., 45.  
 Lowell, J., 22.  
 Luchsinger, J., 42.  
 Ludlow, G. C., 21.  
 Ludlow, H. W., 56.  
 Lugger, O., 18, 42.  
 Luke, F. K., 25.  
 Lyman, R. W., 41.  
 Lytle, A., 36.

**McArdle, H. W., 47.**  
 McBride, G. W., 23.  
 McBryde, J. B., 25.  
 McBryde, J. M., 27, 56.  
 McCarthy, G., 22.  
 McCarthy, J., 20.  
 McClaskey, E. W., 50.  
 McClellan, J. H., 11.  
 McClellan, J. S., 11.  
 McCluer, G. W., 14.  
 McCoard, G. W., 48.  
 McColl, J. R., 53.  
 McCormack, D. A., 53.  
 McCormick, J. F., 18.  
 McCormick, W. S., 26.  
 McCurdy, C. W., 13, 35.  
 McDonald, C. M., 58.  
 McDonnell, M. E., 24.  
 McDonnell, H. B., 40.  
 McDowell, A. V., 23.  
 McDowell, R. H., 20, 45.  
 McElroy, E. B., 23.  
 McElroy, W. O., 14.  
 McElwain, H. A., 50.  
 MacEwan, E. J., 55.  
 McFie, J. R., 21.  
 McGee, W. E., 31.  
 McGee, W. L., 25, 52.  
 MacGillivray, A. D., 47.  
 McHugh, J. K., 16.  
 MacIntosh, D., 14, 35.  
 McKay, A. B., 18, 42.

Mack, C. E., 20.  
 McKeen, B. W., 16.  
 McKenna, P., 22.  
 McKinley, W., jr., 23.  
 McKissick, A. F., 29.  
 McLellan, J. R., 22.  
 McLouth, L., 25, 53.  
 McNeill, J. F., 30.  
 McNutt, J. W., 26.  
 McPherson, J. H. T., 35.  
 McPherson, W., jr., 48.  
 McRae, Mrs. E. M., 36.  
 Magee, W. A., 43.  
 Magruder, A. C., 23, 49.  
 Magruder, W. H., 42.  
 Mahoney, S., 18.  
 Maiden, B. F., 44.  
 Manatt, J. I., 51.  
 Manley, J. M., 51.  
 Manning, H. P., 51.  
 Marcheselli, J. B., 30.  
 Markham, H. H., 10.  
 Marks, C. W., 43.  
 Marks, N. B., 29.  
 Marlatt, A. L., 55.  
 Marlatt, F. A., 15.  
 Marrs, S. E., 10.  
 Marston, A., 37.  
 Martinet, L. M., 39.  
 Martin, A., 43.  
 Martin, J. C., 34.  
 Martin, J. W., 10.  
 Martin, M., 30.  
 Marye, G. T., jr., 10.  
 Mason, S. C., 15, 38.  
 Massey, J. E., 26.  
 Massey, R., 43.  
 Massey, W. F., 22, 47.  
 Mather, J. W., 33.  
 Mathews, C. W., 15, 38.  
 Matthews, H. B., 25.  
 Maxwell, A. M., 42.  
 Maxwell, W., 16.  
 Mayers, S. V., 27.  
 Maynard, S. T., 17, 41.  
 Mayo, N. S., 15, 38.  
 Mayo, J. W., 55.  
 Meacham, J. T., 47.  
 Mead, C. D., 52.  
 Mead, Mrs. C. D., 52.  
 Meek, Mrs. S. E., 30.  
 Meek, S. E., 30.  
 Meeker, W. H., 37.  
 Mell, P. H., 9, 29.  
 Mellen, G. F., 53.  
 Mendl, L. B., 32.  
 Menke, A. E., 30.  
 Mercier, W. B., 16.  
 Merriam, O. C., 18.  
 Merrick, W., 28.  
 Merrill, G. P., 51.  
 Merrill, K., 35.  
 Merrill, L. H., 16.  
 Merrill, N. F., 55.  
 Meske, A., 21.  
 Mesloh, C. W., 48.

Metcalf, M., 56.  
 Meyer, C., 46.  
 Meyer, J. S., 28.  
 Meyers, W. J., 32.  
 Miles, H. C., 12.  
 Miliken, B., 13.  
 Miller, A., 10.  
 Miller, C., 26.  
 Miller, C. Van M., 35.  
 Miller, H. F., 22.  
 Miller, H. K., 29.  
 Miller, R. H., 17.  
 Miller, W. McN., 45.  
 Miller, T. C., 57.  
 Milligan, D., 13.  
 Milliken, R., 35.  
 Mills, A. A., 26, 55.  
 Mills, G. F., 17, 21, 41.  
 Mills, J. W., 11.  
 Mitchell, G. A., 46.  
 Mixter, W. G., 32.  
 Mobley, J. H., 13.  
 Moncreiff, W. F., 52.  
 Montgomery, J. F., 42.  
 Montgomery, W. B., 18.  
 Mooers, C. A., 25.  
 Moore, A. L., 16.  
 Moore, C., 56.  
 Moore, C. F., 17.  
 Moore, J. F., 10.  
 Moore, J. M., 30.  
 Moore, R. S., 36.  
 Moreland, J., 27.  
 Morgan, H. A., 16, 39.  
 Morgan, W. H., 18.  
 Morris, J., 35.  
 Morrill, C. H., 19.  
 Morrey, C. B., 48.  
 Morris, L. B., 11, 12.  
 Morrison, N. B., 13.  
 Morrison, W. S., 52.  
 Morrow, G. E., 13, 14, 35, 59.  
 Morse, A. B., 37.  
 Morse, B. C., 54.  
 Morse, F. W., 20, 45.  
 Moses, B., 31.  
 Moss, M., 9.  
 Mount, W. D., 51.  
 Mumford, F. B., 18, 41.  
 Muncey, V. E., 38.  
 Munro, C. C., 39.  
 Munro, W. H., 51.  
 Munson, W. M., 16, 40.  
 Murfee, E. H., 10, 30.  
 Murkland, C. S., 20, 45.  
 Murphy, D. J., 12.  
 Murphy, W. H., 53.  
 Murray, B. L., 21.  
 Murray, J., 38.  
 Myers, G. W., 35.  
 Myers, J. A., 27.  
 Myers, W. S., 46.  
 Myhn, A. H., 24.  
 Nagle, J. C., 54.  
 Nash, W., 23.

Neal, J. C., 23, 49.  
 Neale, A. T., 12.  
 Neall, J. M., 45.  
 Needham, D., 17.  
 Neff, E. H., 36.  
 Neilson, J., 20, 21.  
 Nelson, A., 28, 58.  
 Nelson, J., 21, 46.  
 Nelson, J. P., 38.  
 Nelson, K., 18.  
 Nesbitt, R. T., 13.  
 Ness, H., 54.  
 Netherton, F. J., 9.  
 Nettleton, M. W., 56.  
 Neville, J. H., 38.  
 Newhall, B., 51.  
 Newman, C. L., 10.  
 Newman, J. S., 59.  
 Newman, J. W., 38.  
 Newsom, H. C., 15.  
 Newton, F. E., 21.  
 Nicholas, P. N., 21.  
 Nichols, E. R., 38.  
 Nicholson, H. H., 19, 44.  
 Nicholson, J. W., 16, 39.  
 Nickerson, W. J., 39.  
 Niemyer, J. H., 33.  
 Niles, E. P., 27, 56.  
 Niles, W. B., 14, 37.  
 Niswander, F. J., 28, 58.  
 Noble, A. B., 41.  
 Noble, R. E., 9, 29.  
 Nordstrum, H., 37.  
 Norris, D. K., 24.  
 Norris, R. S., 31.  
 Northrop, C., 18, 42.  
 Norton, S. A., 48.  
 Nourse, D. O., 27, 56.  
 Norwood, J., 13.  
 Noyes, G. H., 27.  
 Noyes, H. J., 58.  
 Nunn, R., 22.

Off, E. C., 36.  
 Ogden, A. W., 11.  
 O'Hanlon, W., 21.  
 Olcott, J. B., 11.  
 Olding, E. E., 16.  
 Olin, O. E., 38.  
 Olney, L. D., 21.  
 O'Neill, E., 31.  
 Onley, D. W., 34.  
 Ormsbee, E. J., 26.  
 Orr, J. L., 24.  
 Orton, E., 48.  
 Osborn, H., 14, 37, 59.  
 Osborne, T. B., 11.  
 Osmond, I. T., 50.  
 Ostrander, J. E., 13, 35.  
 Otis, D. H., 15.  
 Ott, H. N., 25, 53.  
 Ousley, B. F., 43.  
 Owen, S. M., 18.  
 Owens, Mrs. E., 37.  
 Owen, J. P., 46.  
 Owens, J. R., 17, 40.

Owens, R. B., 44.

Packard, A. S., 51.

Paddock, W., 21.

Page, I. E., 43.

Paget, F. V., 31.

Paige, J. B., 41.

Palmer, A. D., jr., 51.

Palmer, A. W., 35.

Pammel, L. H., 14, 37, 50.

Pardee, W. J., 51.

Park, C. B., 47.

Park, J. B., jr., 13.

Parker, C., 44.

Parker, F. E., 51.

Parker, G. W., 35.

Parker, J. D., 28.

Parkinson, J. B., 34.

Parkinson, J. M., 25, 53.

Parr, S. W., 35.

Parrott, J. R., 56.

Parsons, C. L., 20, 45.

Patrick, G. E., 14, 37.

Patterson, H. J., 17, 60.

Patterson, J. K., 15, 38.

Patterson, L. G., 18.

Patterson, W. C., 24.

Patterson, W. K., 38.

Patton, G. E., 32.

Paulson, P. M., 42.

Payne, F., 26.

Payne, F. H., 31.

Payne, J. F., 22.

Payne, L. W., jr., 20.

Payson, E. R., 46.

Peabody, G. F., 56.

Peck, C., 26.

Peck, T. F., 25.

Peebles, A. B., 33.

Peets, G. H., 18.

Pemberton, J., 50.

Pence, M. L., 38.

Pendergast, W. W., 18.

Penfield, S. L., 33.

Penfield, T. J., 52.

Pennoyer, S., 23.

Penny, C. L., 12, 33.

Perin, S. W., 19.

Perkins, C. A., 53.

Perkins, G. H., 26, 55.

Perkins, W. R., 42.

Pernot, E., 49.

Pershing, J. J., 44.

Persons, A. A., 12, 34.

Peter, A. M., 15, 60.

Peter, R., 38.

Peters, A. T., 19.

Peterson, C. D., 36.

Petrie, G., 29.

Petree, C. H., 20, 45.

Pettit, J. S., 33.

Phelps, C. S., 12, 33.

Phelps, E., 17.

Phelps, H. G., 19, 44.

Phelps, T. G., 19.

Phillips, A. E., 36.

Phillips, J. W., 45.

Phillips, W. H. H., 53.

Philpott, W. B., 54.

Pierce, A. B., 31.

Pierce, J. R., 38.

Pierce, N. D., 24.

Pierson, F. E., 56.

Pillsbury, A. J., 10.

Pillsbury, J. S., 18.

Pillsbury, W. L., 14.

Pinney, E. C., 12.

Piper, C. V., 27, 57.

Pirsson, L. B., 33.

Plumb, C. S., 14, 36.

Plummer, D. L., 27.

Poland, W. C., 51.

Pond, F. J., 50.

Pond, G. G., 50.

Pond, M. A., 33.

Pond, P. E., 56.

Popenc, E. A., 15, 38.

Porter, E. D., 19, 43.

Porter, W. H., 17.

Poulson, C. A., 21.

Powell, E. H., 26.

Power, J. B., 22, 47.

Powers, H. C., 34.

Powers, W. A., 14.

Pratt, J. H., 33.

Prentiss, A. N., 22, 47.

Prentiss, R. W., 46.

Price, D. T., 18.

Price, M. A., 56.

Price, R. B., 19.

Primrose, W. S., 22.

Price, R. C., 56.

Price, R. H., 26, 54.

Pritchard, S. R., 56.

Pritchett, C. M., 47.

Pryor, J. W., 38.

Purinton, G. D., 43.

Purnell, C. J., 16.

Puryear, C., 54.

Putzker, A., 31.

Quaintance, A. L., 23.

Quuin, J. E., 23.

Quick, W. J., 43.

Ragland, E., 53.

Ramsey, F. D., 57.

Randall, H. I., 31.

Randall, O. E., 51.

Randolph, J. H., jr., 39.

Randolph, L. S., 56.

Rane, F. W., 27, 57.

Ransome, F. L., 31.

Raub, A. N., 12, 33.

Raymond, I. S., 13.

Raymond, W. J., 31.

Read, A. C., 39.

Read, G. A., 36.

Read, L. C., 27, 57.

Rearick, C. B., 43.

Reber, L. E., 50.

Reddick, J. B., 10.	Ryon, A. N., 19, 44.
Reddick, W. C., 47.	Salich, E., 44.
Redding, R. J., 13.	Sample, W. A., 23.
Redfearn, D. T., 24.	Sanborn, J. W., 26, 55.
Redifer, A. E., 50.	Sanford, T. F., 31.
Reed, J. H., 54.	Saunders, A. R., 57.
Renfrow, W. C., 23.	Saunders, W. M., 51.
Replogle, J., 37.	Saylor, C. F., 14.
Reynolds, M. H., 18, 42.	Sbisa, B., 54.
Reynolds, P. B., 27, 57.	Schermerhorn, A., 14.
Reynolds, W. F., 57.	Schmitt, C. D., 53.
Rhodes, A., 22.	Schurman, J. G., 22, 47.
Rice, C. J., 11.	Schweitzer, P., 19, 43.
Rich, F. A., 26, 55.	Scott, A., 20, 21, 46, 51.
Rich, F. R., 32.	Scott, C., 37.
Rich, J. T., 17.	Scott, C. W., 45.
Richards, C. B., 32.	Scott, E. L., 39.
Richards, C. R., 44.	Scott, M. P., 40.
Richards, J. E., 56.	Scott, W. H., 48.
Richman, E. S., 26, 55.	Scovell, M. A., 15, 59.
Richter, A. W., 58.	Scoville, A. B., 56.
Riggs, W. M., 29.	Scribner, F. L., 25, 53.
Riley, B. F., 35.	Sears, C. H., 52.
Riley, C. V., 17.	Sears, L., 51.
Riley, E. F., 27.	Secor, E., 14.
Rising, W. B., 31.	Secrest, E., 15.
Ritter, M. B., 31.	Seibert, D., 16.
Ritter, W. E., 31.	Sells, C., 14.
Roark, R. N., 38.	Senger, J. H., 31.
Roberts, I. P., 22, 47.	Sessions, W. R., 17.
Roberts, M., 37.	Setchell, W. A., 32.
Robertson, W., 42.	Seth, J., 51.
Robinson, F. H., 33.	Seymour, W., 39.
Robinson, J. A., 27.	Shackleford, J., 38.
Robinson, J. S., 17, 40.	Shaff, C. W., 13.
Robinson, S. W., 48.	Sharwood, W. J., 31.
Rodman, T. C., 51.	Shattuck, S. W., 35.
Rogers, A., 10.	Shaw, A. B., 14.
Rogers, A. E., 40.	Shaw, A. M., 16.
Rogers, J. B., 20.	Shaw, G. W., 49.
Rolfe, C. W., 35.	Shaw, T., 18, 42.
Rolfs, P. H., 12, 34.	Sheib, E. E., 56.
Roos, C., 39.	Sheffield, O. E., 35.
Rose, A. J., 25.	Shelby, A. M., 15.
Ross, B. B., 9, 29, 60.	Sheldon, C. H., 11.
Ross, C. H., 29.	Sheldon, E. T., 25.
Ross, L. S., 25, 26, 54.	Shepard, J. E., 55.
Rossmann, W. L., 18.	Shepard, J. H., 25, 53.
Rothwell, G. F., 19.	Shepardson, W. M., 17.
Rowell, C., 10.	Shepperd, J. H., 22, 47.
Rowell, J. C., 31.	Sherman, H. C., 40.
Rowlee, W. W., 47.	Sherman, L. A., 44.
Roy, V. L., 39.	Sherman, M. J., 56.
Royce, C. C., 11.	Shinn, C. H., 10.
Rumsey, W. E., 27.	Shipley, A. R., 23.
Runkle, E. W., 50.	Shiver, F. S., 25.
Rupp, A., 38.	Sholl, J. M., 55.
Rushin, J. M., 13.	Short, L. J., 33.
Russell, F. L., 16.	Shunway, E. S., 46.
Russell, H. L., 28, 58.	Siebert, W. H., 48.
Rust, R. C., 11.	Silvester, R. W., 17, 40.
Rutledge, J. M., 43.	Simonds, W. E., 12.
Rutledge, T. T., 13.	Simpson, R. W., 24.
Ryals, G. M., 13.	Sims, C. W., 25.
Ryan, C., 11.	Sirrene, F. A., 14.
Ryan, C. J., 32.	Skinner, B. S., 47.
Ryan, J. J., 11.	

Skolfield, H., 15, 39.  
 Slate, F., 31.  
 Sledge, A., 9.  
 Slingerland, M. V., 22.  
 Sloan, P. H. E., 24.  
 Sloss, L., 10.  
 Slossen, E. E., 28, 53.  
 Small, C. H., 11.  
 Smart, J. H., 14, 36.  
 Smart, R. A., 36.  
 Smith, A. J., 13.  
 Smith, C. A., 39.  
 Smith, C. D., 18, 22, 41.  
 Smith, C. Y., 19.  
 Smith, F., 35.  
 Smith, J. B., 21, 46.  
 Smith, H., 14.  
 Smith, H. A., 32.  
 Smith, H. B., 36.  
 Smith, I. W., 37.  
 Smith, J. R., 48.  
 Smith, M. DeK., 16.  
 Smith, O. D., 29.  
 Smith, P. F., 32.  
 Smith, R. F., 54.  
 Smith, R. H., 17.  
 Smith, S. I., 32.  
 Smoke, S. A., 43.  
 Smyth, E. A., jr., 27, 56.  
 Snell, M. C., 49.  
 Snelling, C. M., 35.  
 Snodgrass, C. A., 43.  
 Snow, C., 56.  
 Snow, L. F., 51.  
 Snyder, H., 18, 42.  
 Selberg, A. C., 53.  
 Sommerville, J. B., 27.  
 Soulé, F., 31.  
 Southworth, C. M., 32.  
 Sparks, E. E., 50.  
 Spence, D. W., 54.  
 Spence, T. H., 40.  
 Spencer, G. L., 60.  
 Sperr, F. W., 48.  
 Speyers, C. L., 46.  
 Spinney, L. B., 37.  
 Spitzer, G., 36.  
 Spurr, R. J., 15.  
 Stackhouse, H. M., 24.  
 Stadtmauer, F., 45.  
 Stalker, M., 14, 37.  
 Stanley, T. A., 58.  
 Stannard, J. D., 11, 32.  
 Stanton, E. W., 14, 37.  
 Staples, S. B., 16, 39.  
 Starkweather, G. P., 32.  
 Starnes, H. N., 13.  
 Stratford, E. D., 15.  
 Stearns, J. W., 27.  
 Stearns, O. P., 18.  
 Stebbins, H., 10.  
 Steele, C. L., 42.  
 Stephenson, E. L., 46.  
 Stevens, A. H., 33.  
 Stevens, A. T., 18.  
 Stevens, B. J., 27.  
 Stevens, J., 20.  
 Stevens, J. S., 40.  
 Stevens, M. C., 36.  
 Stevens, P. F., 52.  
 Stevens, W. E., 22.  
 Stewart, F. C., 14, 37.  
 Stewart, J. H., 27.  
 Stiles, H. L., 43.  
 Stinson, J. T., 10.  
 Stockbridge, H. E., 59.  
 Stockbridge, L., 41.  
 Stockley, C. C., 12.  
 Stoek, H. H., 50.  
 Stollenwreck, G. D., 9.  
 Stone, C. W., 20.  
 Stone, D. E., 20.  
 Stone, E. P., 20.  
 Stone, G. E., 41.  
 Stone, W. E., 36.  
 Stone, J. M., 18.  
 Stont, O. V. P., 44.  
 Stover, W. R., 26.  
 Strachen, W. J., 11.  
 Strahan, C. M., 35.  
 Stratford, E. D., 15.  
 Straughn, C. E., 40.  
 Street, H. M., 18.  
 Street, J. P., 20, 60.  
 Street, W. D., 15.  
 Strickler, H. M., 40.  
 Stringer, S., 12.  
 Stringham, I., 31.  
 Strode, H. A., 52.  
 Strong, W. C., 17.  
 Stout, M. D., 36.  
 Stuart, C. B., 14.  
 Stuart, J. A., 9.  
 Stuart, J. M., 34.  
 Stubbs, J. T., 12.  
 Stubbs, W. C., 16, 39, 60.  
 Stubenrauch, A. V., 10.  
 Stuermer, J., 36.  
 Stull, J. W., 56.  
 Sturgis, W. C., 11.  
 Styer, H. D., 55.  
 Sutton, J., 31.  
 Swan, E. D., 36.  
 Swayzee, R. B., 43.  
 Sweetser, W. S., 24.  
 Switzler, I., 19.  
 Taft, S., 30.  
 Taft, L. R., 18, 41.  
 Taggart, W. M., 50.  
 Talbott, E., 28.  
 Talbott, E. H., 19.  
 Taliaferro, W. T. L., 40.  
 Tallant, J. G., 20.  
 Talley, T. W., 34.  
 Tannatt, T. R., 27.  
 Taylor, E., 13.  
 Taylor, G. H., 20.  
 Taylor, J. R., 48.  
 Taylor, L. M., 11, 32.  
 Taylor, W. D., 39.  
 Taylor, W. G., 44.

Teeple, G. L., 45.  
 Teller, G. L., 10.  
 Temple, O. P., 25.  
 Tenney, H., 9.  
 Terrill, J. S., 15  
 Test, E., 36.  
 Test, W. H., 36.  
 Thach, C. C., 29.  
 Thayer, W. C., 50.  
 Thomas, B. F., 48.  
 Thompson, C. D., 49.  
 Thompson, C. K., 39.  
 Thompson, H. E., 49.  
 Thompson, H. M., 17.  
 Thompson, J. D., 36.  
 Thompson, J. S. C., 33.  
 Thompson, M. J., 50.  
 Thorne, C. E., 23.  
 Thresher, H. H., 52.  
 Throop, L. S., 55.  
 Thurlimann, L., 37.  
 Thurtell, H., 45.  
 Tillinghast, P., 13.  
 Tillman, B. R., 24.  
 Tilson, P. S., 26, 54.  
 Tindal, J. E., 24.  
 Tine, B. F., 20.  
 Titsworth, A. A., 46.  
 Titus, R., 20.  
 Toftbagøn, A. M., 22.  
 Tompkins, D. A., 22.  
 Tompkins, S., 52.  
 Torreyson, J. D., 20.  
 Toumey, J. W., 9, 30.  
 Towar, J. D., 24.  
 Townsend, E. J., 35.  
 Townshend, N. S., 48.  
 Towle, W. M., 50.  
 Tracy, J. C., 32.  
 Tracy, S. M., 18.  
 Trammel, R. J., 29.  
 Traphagen, F. W., 19, 44.  
 Tremain, M. A., 44.  
 Tremaine, J., 44.  
 Trimble, R. E., 11, 32.  
 Troop, J., 14, 36.  
 Troyer, A. M., 19.  
 Tucker, C. B., 34.  
 Tucker, C. C., 56.  
 Tucker, T. DeS., 34.  
 Turnbull, S. J., 12.  
 Turner, H. B., 56.  
 Turner, W. P., 36.  
 Tutherford, H. E., 55.  
 Tuttle, A., 21.  
 Tuttle, F. E., 50.  
 Twitty, J. N., 13.  
 Twombly, S. S., 26, 55.  
 Tyler, Mrs. A. M., 30.  
 Tyson, H., 10.  
 Tyson, L. D., 53.  
 Upson, I. S., 20, 21, 46.  
 Upton, W., 51.  
 Vagner, C. I., 28.  
 Van Blarcom, H., 43.  
 Vandford, C. F., 25, 53.  
 Vandiver, A. C., 19.  
 Vandover, M., 16.  
 Vandoren, N. L., 57.  
 Van Dyck, F. C., 46.  
 Van Dyke, J. C., 46.  
 Van Gorder, A. G., 31.  
 Van Slyke, L. L., 21.  
 Van Weller, P., 34.  
 Vawter, C. E., 26.  
 Vedder, H. K., 41.  
 Veeder, J. D. W., 21.  
 Venable, A. R., 26.  
 Verrill, A. E., 32.  
 Von Holland, A., 36.  
 Voorhees, E. B., 20, 46, 50, 60.  
 Voorhees, L. A., 20.  
 Votey, J. W., 55.  
 Vye, J. A., 18, 42.  
 Wait, C. E., 53.  
 Waite, D. H., 11.  
 Waitt, Mrs. J. H., 16.  
 Wakeman, A. J., 32.  
 Walden, L. T., 33.  
 Waldron, C. B., 22, 47.  
 Waldron, M. M., 56.  
 Walker, B. M., 42.  
 Walker, C. S., 41.  
 Walker, F., 58.  
 Walker, M., 9.  
 Walker, Mark, 9.  
 Walker, W. S., 50.  
 Wallace, H. C., 14, 37.  
 Wallace, J. S., 42.  
 Wallace, W. T., 10.  
 Waller, O. L., 57.  
 Walters, J. D., 38.  
 Wannamaker, J. E., 21.  
 Ward, H. B., 44.  
 Ward, W. R., 20.  
 Warder, R. H., 23.  
 Warner, C. D., 17, 41.  
 Warren, W. H., 13.  
 Washburn, A. C., 41.  
 Washburn, F. L., 23, 49.  
 Washburn, J. H., 24, 51, 53.  
 Washburn, L. C., 12.  
 Washington, M. E., 30.  
 Wason, G. A., 20.  
 Waterman, G. A., 33.  
 Waters, C. R., 53.  
 Waters, H. J., 24, 50.  
 Watkins, W. W., 13.  
 Watrous, F. L., 11.  
 Watson, G. C., 22, 47.  
 Watson, E. J., 16, 51.  
 Watson, T. I., 16.  
 Watson, T. L., 27, 56.  
 Watt, G. H., 57.  
 Watts, J. B., 54.  
 Watts, R. L., 25, 53.  
 Waugh, C. V., 34.  
 Waugh, F. A., 23, 49.  
 Waymire, J. A., 10.  
 Weatherford, J. K., 23.  
 Webb, H. S., 40.

Webb, J. F., 29.  
 Webb, J. H., 11.  
 Webb, W., 34.  
 Weber, H. A., 48.  
 Webster, F. M., 23.  
 Webster, W. T., 23.  
 Weed, C. M., 20, 45, 59.  
 Weed, H. E., 18.  
 Wegener, A. B., 53.  
 Weick, C. W., 48.  
 Weihe, F. A., 33.  
 Weil, C. L., 41.  
 Welborn, W. C., 42.  
 Welch, C. W., 52.  
 Welch, W., 52.  
 Weld, R. J., 24.  
 Wellington, C., 41.  
 Wells, F., 17.  
 Wells, H. L., 33.  
 Wells, J. H., 38.  
 Wentch, J. A., 37.  
 Wentzel, D., 17.  
 Werner, W. C., 48.  
 Wertz, G. T., 20.  
 Westcott, A. L., 41.  
 Weston, C., 19.  
 Westermann, G., 37.  
 Whalen, W. H., 47.  
 Wharton, R. W., 22.  
 Wheaton, A. H., 25.  
 Wheaton, H. H., 53.  
 Wheeler, A. S., 33.  
 Wheeler, C. F., 18, 41.  
 Wheeler, H. J., 51.  
 Wheeler, J., 15.  
 Wheeler, W., 17.  
 Wheeler, W. P., 21.  
 Wheeler, H. J., 24, 60.  
 Whitaker, M. A., 20.  
 Whitcher, G. H., 20, 45.  
 White, A. D., 22.  
 White, A. H., 35.  
 White, B. O., 26.  
 White, D. S., 48.  
 White, F. H., 38.  
 White, H. C., 13, 35, 59.  
 White, J. C., 19, 44.  
 White, J. G., 38.  
 White, J. M., 42.  
 Whitchill, A. R., 57.  
 Whiting, N., 31.  
 Whitlock, R. H., 54.  
 Whitner, J. N., 12, 34.  
 Whitney, M., 17.  
 Whitney, W. D., 32.  
 Wickson, E. J., 10, 31.  
 Wiechardt, A. J., 46.  
 Wiggin, O. C., 51.  
 Wightman, A. R., 51.  
 Wilcox, C. P., 35.  
 Wilder, K., 44.  
 Wildman, B. E., 23.  
 Wiley, E., 53.  
 Wiley, H. W., 60.  
 Willard, J. J., 50.  
 Willard, J. M., 50.  
 Willard, J. T., 15, 38.  
 Willey, W. P., 57.  
 Williams, A., 51.  
 Williams, A. W., 25, 53.  
 Williams, C. B., 22, 47.  
 Williams, C. M., 32.  
 Williams, E. L., 22.  
 Williams, G. J., 43.  
 Williams, L., 43.  
 Williams, N. J., 30.  
 Williams, J. P., 47.  
 Williams, T. A., 25, 53.  
 Williams, W. L., 19, 44.  
 Williams, W. R., 22.  
 Willis, R. H., 30.  
 Wilmore, J. J., 29.  
 Wills, J. H., 29.  
 Willson, L. S., 19.  
 Wilson, A. M., 44.  
 Wilson, C. C., 33.  
 Wilson, E., 37.  
 Wilson, E. T., 48.  
 Wilson, F., 37.  
 Wilson, G. G., 51.  
 Wilson, J., 14, 37.  
 Wilson, M. E., 33.  
 Wilson, N. E., 20.  
 Winchip, Mrs. E. E., 38.  
 Wing, H. H., 22, 47.  
 Wing, H. J., 13, 35.  
 Winn, F. L., 31.  
 Winslow, I. O., 16.  
 Winslow, L. E., 25, 53.  
 Winton, A. L., jr., 11.  
 Wismer, F., 58.  
 Withers, J. S., 27.  
 Withers, W. A., 47.  
 Wolf, T. R., 33.  
 Wolfe, H. K., 44.  
 Wolfe, J. M., 50.  
 Woll, F. W., 28, 58.  
 Wood, A. H., 20, 45.  
 Wood, E. W., 17.  
 Wood, J. H., 14.  
 Woodbury, H. E., 33.  
 Woodruff, W. B., 54.  
 Woods, C. D., 12, 60.  
 Wooton, E. O., 21, 46.  
 Woodward, J. A., 24.  
 Woodworth, C. W., 10, 31.  
 Woodworth, P. B., 41.  
 Worcester, J. S., 56.  
 Worden, L. D., 36.  
 Working, D. W., 11, 32.  
 Wright, R. E., 56.  
 Wright, S. G., 14, 36.  
 Yarborrough, L. T., 47.  
 Yates, R. E. L., 47.  
 Yocom, W. F., 34.  
 Zimmerman, W. H., 40.



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